THE WHEAT SITUATION

A REPORT TO THE PRESIDENT

BY

HENRY C. WALLACE
SECRETARY OF AGRICULTURE

WASHINGTON
GOVERNMENT PRINTING OFFICE
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LETTER OF TRANSMITTAL.

NOVEMBER 30, 1923.

DEAR MR. PRESIDENT: I transmit herewith the result of the studies of the wheat situation made in the Department of Agriculture. Since the original report was submitted to you October 27, additional information has been secured on world conditions and has been included in this revised report.

Respectfully,

HENRY C. WALLACE.

THE PRESIDENT,
The White House.

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THE WHEAT SITUATION.

THE PRICE AND PURCHASING POWER OF WHEAT.

The farm price of wheat is down nearly to pre-war level and the purchasing power of a bushel is far below. The farm price August 1, for the first time since the beginning of the war, fell below the average for the corresponding month in the period 1909–1913, being 84 cents, compared

MONTHLY PRICES OF WHEAT AT MINNEAPOLIS, CHICAGO, AND KANSAS CITY, 1922–23.

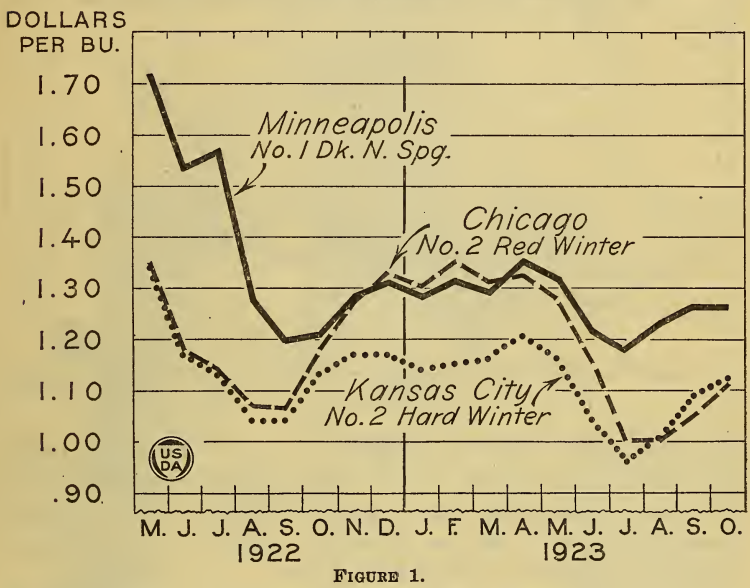


FIGURE 1.

with 91 cents. Since August prices have risen and are now slightly above the pre-war level. The November 1 average farm price was 95 cents. If the seasonal price movement for this year, 1923–24, parallels that of last year, prices will continue to rise slightly, reaching the highest point of the season in the early spring.

The purchasing power of a bushel of wheat is more significant than the price of wheat. Although the average

farm price of November 1 was above the 1909–1913 average for November, it is equivalent to only about 60 cents per bushel in the pre-war period. A suit of clothes which cost the farmer in North Dakota 21 bushels of wheat in July, 1913, cost him 31 bushels in 1923, and a wagon which then cost him 103 bushels would now cost him 166. The cost of nearly everything the farmer buys is necessarily very high because freight rates and industrial wages which enter not only into the cost of manufacturing but also the cost of transportation are far above their level before the war. With the November farm price of wheat only 107 per cent of the pre-war average price, the wholesale price of all com-

CHICAGO PRICE OF WHEAT AND THE PRICE ADJUSTED TO THE PURCHASING POWER OF THE 1913 DOLLAR, 1890–91 TO 1922–23.

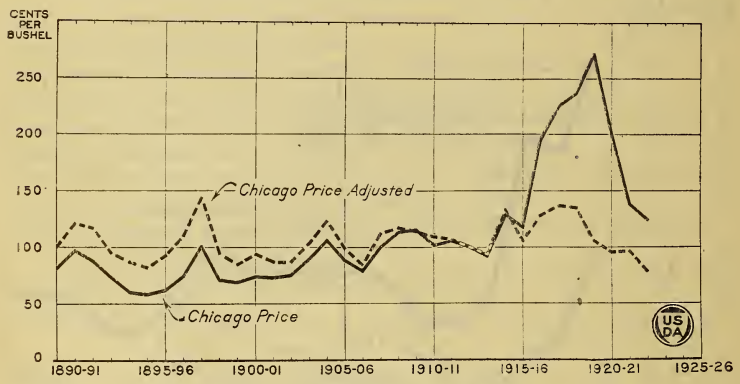
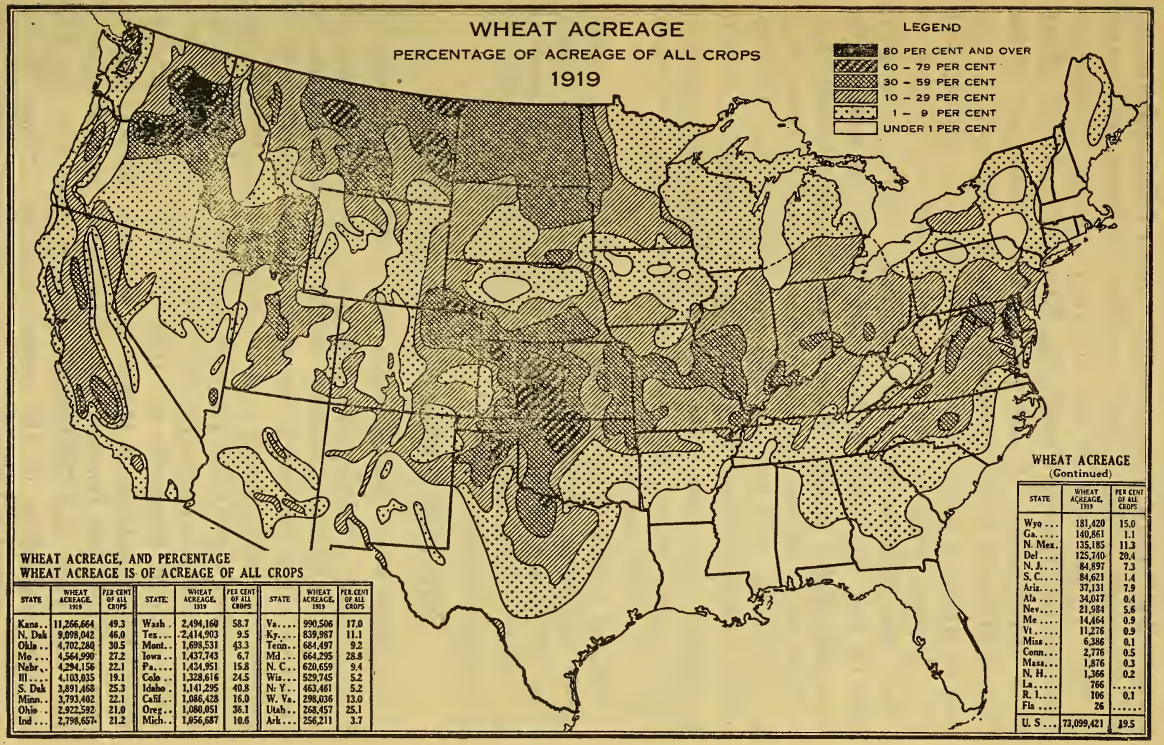


FIGURE 2.

modities which is generally taken as a measure of the price level was 153 per cent in October.[1] On the basis of this price level the average farm price of wheat should have been about $1.35 per bushel for November to give wheat pre-war purchasing power at wholesale prices.

The low price and purchasing power of wheat directly affects the income of about 2,000,000 farmers. In large areas of North Dakota, South Dakota, Kansas, Nebraska, Montana, Idaho, and Washington farmers depend almost entirely upon wheat for their cash income. According to the census of 1919, 80 per cent of the farmers in North Dakota, 76 per cent in Kansas, and 66 per cent in South

[1] A one-year base for an individual commodity is not satisfactory. The index of the price of wheat is therefore based on the 1909–1913 average.



WHEAT ACREAGE, AND PERCENTAGE
WHEAT ACREAGE IS OF ACREAGE OF ALL CROPS

STATE	WHEAT ACREAGE, 1919	PER CENT OF ALL CROPS	STATE	WHEAT ACREAGE, 1919	PER CENT OF ALL CROPS	STATE	WHEAT ACREAGE, 1919	PER CENT OF ALL CROPS
Kans..	11,266,664	49.3	Wash.	2,494,160	58.7	Va....	990,506	17.0
N. Dak	9,098,042	46.0	Tex...	2,414,903	9.5	Ky....	839,967	11.1
Okla..	4,702,280	30.5	Mont..	1,698,531	43.3	Tenn..	684,497	9.2
Mo ...	4,564,990	27.2	Iowa ..	1,437,743	6.7	Md ...	664,295	28.8
Nebr..	4,294,156	22.1	Pa....	1,434,951	15.8	N. C..	620,659	9.4
Ill	4,103,035	19.1	Colo ..	1,328,616	24.5	Wis...	529,745	5.2
S. Dak	3,891,468	25.3	Idaho .	1,141,295	40.8	N. Y..	463,461	5.2
Minn..	3,793,402	22.1	Calif ..	1,086,428	16.0	W. Va.	298,036	13.0
Ohio ..	2,922,592	21.0	Oreg ..	1,080,051	36.1	Utah..	268,457	25.1
Ind ...	2,798,657	21.2	Mich..	1,056,687	10.6	Ark...	256,211	3.7

WHEAT ACREAGE
(Continued)

STATE	WHEAT ACREAGE, 1919	PER CENT OF ALL CROPS
Wyo ...	181,420	15.0
Ga.	140,861	1.1
N. Mex..	135,185	11.3
Del	125,740	20.4
N. J....	84,897	7.3
S. C....	84,621	1.4
Ariz....	37,131	7.9
Ala	34,017	0.4
Nev....	21,981	5.6
Me	14,464	0.9
Vt.....	11,276	0.9
Miss...	6,386	0.1
Conn...	2,776	0.5
Mass...	1,876	0.3
N. H...	1,366	0.2
La.....	766	.....
R. I....	106	0.1
Fla	26	.....
U. S ...	73,099,421	19.5

FIGURE 3.

Dakota grew wheat. A farm survey in the Palouse district of Idaho and Washington for the three years 1919–1921 showed that approximately 80 per cent of the cash income of the farmers in that district was derived from wheat; and, in 1922, 78 per cent of the income of farms surveyed in Sheridan and Daniels Counties in Montana was from wheat. As a direct source of cash income the wheat crop of the United States is more important than the corn crop, a large part of which is fed to livestock. In five years ending with 1922 farmers sold on the average 711,000,000 bushels of wheat and 544,000,000 bushels of corn. Moreover, a large part of the corn sold is from one farmer to another for livestock feed. Many wheat farmers produce other commodities than wheat, but the prices of many of these, such as oats, barley, and rye, are below pre-war prices. The specialized wheat farmer, as a rule, does not produce, or produces only for home use, the commodities such as corn, butter, eggs, cotton, and wool, which are now selling at relatively high prices.

The low price and purchasing power of wheat is far-reaching in its effects, for not only the wheat farmer but practically all classes of business men whose income depends to any extent upon the prosperity of the wheat farmer are adversely affected.

THE WORLD BREAD-GRAIN SITUATION.

The price which the farmer of the United States receives for his wheat is determined largely by the world supply of wheat. As exporters, farmers in the United States receive for wheat the price paid in the world markets less the cost or charges for placing wheat or flour in those markets. Chicago prices follow closely the price in Liverpool and other large world markets, and farm prices follow closely Chicago prices.

The present prospects are that the total world production of wheat outside of Russia in the year 1923–24 may be over 3,400,000,000 bushels,[1] or 300,000,000 bushels greater than last year and 500,000,000 greater than the pre-war average production of the same countries. Since Russia exported annually 1909–1913 (crop movement years) only

[1] All estimates of production for 1923–24 are subject to change by report of revisions and by receipt of official estimates for countries not officially reported.

164,000,000 bushels of wheat, the increase in production outside of Russia makes up for the loss of Russian exports and increases the supply by more than 300,000,000 bushels. The world production of rye, which has an important in-

WORLD WHEAT PRODUCTION AND THE CHICAGO PRICE, 1890–91 TO 1913–14.

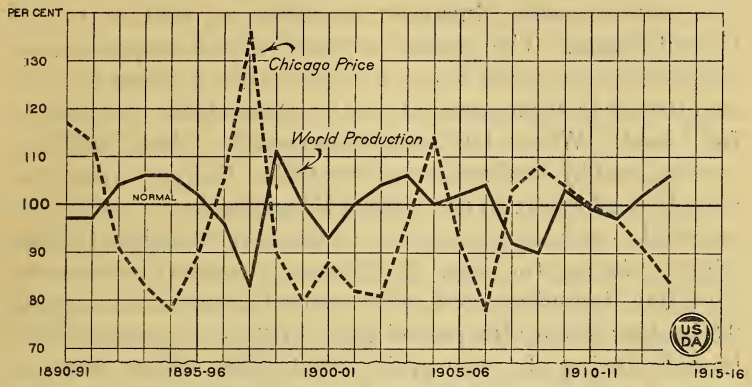


FIGURE 4.

fluence upon the wheat market, especially in Europe, may be 970,000,000 bushels, or 131,000,000 bushels greater than last year, but 64,000,000 below the pre-war production in the same territory. Since Russia annually exported 29,000,000 bushels before the war, the world production outside of Russia is still 93,000,000 bushels short on rye. Adding together wheat and rye, the indicated supply of

UNITED STATES FARM PRICE OF WHEAT AND WHEAT PRICES AT CHICAGO AND LIVERPOOL, 1890–91 TO 1921–22.

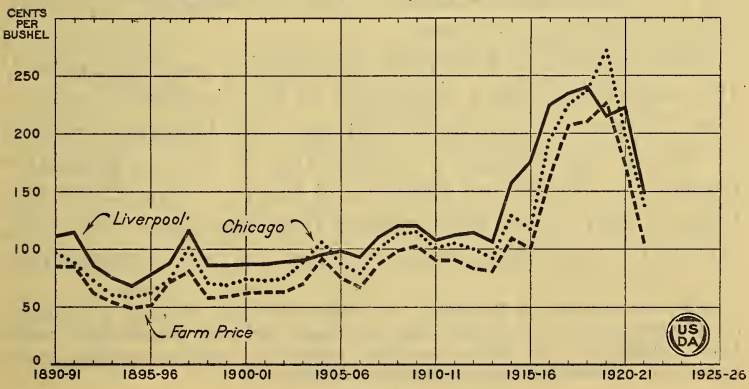


FIGURE 5.

bread grains for the year 1923–24 outside of Russia is over 400,000,000 bushels greater than last year and more than 200,000,000 in excess of the average pre-war supply.

THE CONSUMPTION OF BREAD CEREALS IN EUROPE.

War has had a marked effect upon the bread grain consumption of some European countries as well as of the United States. The present population of Europe is about the same as ten years ago. The standard of living in some countries has been lowered and cheaper foods substituted for wheat. Wheat has been conserved by "long milling," mixing, and by feeding less to livestock. The per capita consumption of wheat in the United Kingdom has remained remarkably constant during the last fourteen years but declined slightly during the war. In France per capita wheat consumption, including seed, was reduced from an average of 9.3 bushels during the period 1909–1913 to an average of 7.4 bushels during the war period 1914–1918. Since then the average has increased to 7.7 bushels. Milling restrictions are still in force requiring the mixing of from 8 to 10 per cent of substitutes with wheat flour. The per capita supply of bread grains has been considerably below normal also in Germany and Austria. Notwithstanding that the European production of wheat outside of Russia in 1922 was nearly 300,000,000 bushels less than the pre-war average and that prices were relatively low, the net import of these countries in the year 1922–23 was only about 200,000,000 bushels greater than the pre-war net import.[1] The import of rye also has failed to make up for the decrease in production in importing countries.

Some increase in European consumption may be expected. It is significant that a large part of the increase in production this year as compared with last is in Europe. Outside of Russia the European wheat crop is about 245,000,000 bushels or 23 per cent greater and the rye crop 165,000,000 bushels, also 23 per cent greater than last year. The producers in many European countries are now complaining

[1] The net imports of European importing countries, 1922–23, preliminary 567,000,000 bushels wheat and flour as wheat; 1921–22, 535,000,000; 1909–1913, 505,000,000, of which European exporting countries supplied about 11,000,000, 20,000,000, and 272,000,000, respectively.

of low prices and may consequently market a smaller proportion of the crop than was marketed last year. Low prices both at interior markets and at import points may encourage a larger per capita consumption by the urban population. The reduction in the potato crop this year as compared with last will also contribute to an increase in the wheat and rye consumption. The experience of the last two years supports these assumptions. The European wheat crop of 1921 was estimated to be 1,216,000,000 bushels, only 70,000,000 below the estimates for the present year, and Europe imported about 515,000,000 net; whereas last year with a crop of only 1,026,000,000 bushels, but with a very large potato crop, net imports amounted to only approximately 567,000,000 bushels. It seems, therefore, that notwithstanding some increase in production, European importing countries may import 500,000,000 bushels of wheat in 1923–24. If the per capita consumption of European countries is not increased over last year an importation of 400,000,000 bushels will meet all requirements.

European surplus producing countries are prepared to supply deficit countries with from 40,000,000 to 80,000,000 bushels of wheat. The five important surplus-producing countries outside of Europe could supply the European countries the maximum quantities that they will take, export 150,000,000 bushels to countries outside of Europe and have larger quantities than last year to consume or carry over in stocks.

FOREIGN COMPETITION INCREASING.

Looking ahead beyond this season, prospects are not good for marketing a surplus of wheat at satisfactory prices. European agriculture is returning to pre-war productiveness. Last year Russia exported some rye and a little wheat. The area of all cereals this year is estimated to be 20 per cent greater than last, but yields are lower and the total crop probably will be about the same as last year. Great efforts are being made to export both wheat and rye, and already this year's exports exceed the total for last year. The increase in the area of crops in Russia is a definite indication of a tendency to return to an export basis.

High prices during the war period greatly stimulated production in Canada. Since the war low prices for cattle in Australia and Argentina have encouraged the production of more wheat. In Canada, since the western Provinces are better suited to produce wheat as a cash crop than to produce anything else for market, the area and production of wheat continue to expand. With small populations these countries must either find foreign markets for a large part of their crops or abandon a considerable area of wheat production. It is evident, therefore, that competition for the European markets will be increasingly keen and will tend to eliminate those countries in which the relative cost of production is highest.

Foreign competition is becoming increasingly keen, not only in quantity but also in quality of wheat and flour produced. The return of Russia will bring back into the market a large supply of Durum wheat in competition with the United States and North Africa. The expansion of production in Canada increases the quantity of high-grade hard wheat available to European markets, and the flour made from this wheat is gaining in reputation in Europe.

The commercial, financial, and political relations of some European buyers make it more advantageous for them to purchase wheat from our competitors than from the United States. In so far as business interests follow the flag, the colonies and dependencies of the United Kingdom and France are in favorable positions for marketing their surplus wheat, and the war has strengthened their positions. The purpose of the recent negotiations between business men in Germany and in the United Kingdom with Russian organizations is to facilitate the exchange of manufactured goods for grain and other Russian raw materials.

High and fluctuating exchange rates also handicap the United States in trading with European countries. In the past year German grain dealers have had great difficulty in financing imports, not only because of the fluctuations in exchange but also on account of restrictions upon the purchase of exchange. In some cases exporters of other countries are more liberal in terms of sale than are the

exporters of the United States. For example, it is reported that whereas Canadian mills are quite satisfied to accept cash documents, Hamburg, American mills will sell only on New York sight draft, which handicaps the German importer who would buy from the United States.

American credit advances on favorable terms to German importers would facilitate the sale of American grain and flour in Germany. German importers need short-time credit at reasonable rates. A large grain importing company has expressed a keen interest in any possibility of securing American credit on easier terms for the handling of grain imports into Germany. This company reports that the restricted capital which they have available for extending credits limits sales of American wheat and flour, that they could sell much more if they had "gold capital" with which to work. They further report that the company has been doing a good and steady business in both wheat and flour with America and Canada, and that even in the first week in October, when German business seemed at a standstill, they had continued to do a steady business. They were able to carry on this business, however, only by taking up foreign documents and giving short-term credit to a selected list of mills and wholesalers. The losses on credit advances thus far have been almost negligible in relation to the volume of their business.

German banking and credit organizations also have made proposals for the financing of American grain in Germany. By their suggestion banks would arrange to provide securities for an American exporter, or they would take over the documents as trustee and cover these documents by special contract or acceptance against the mills receiving the grain, which would remain the property of the seller until payment was made.

To summarize briefly, changes in international commercial, financial, and political relations as well as the increase in quantity and improvement in quality of wheat produced by competing countries have increased the difficulty of selling our surplus wheat.

DISTRIBUTION OF THE WHEAT CROP OF THE UNITED STATES.

The estimated production of wheat in the United States plus estimated carry over in the form of both wheat and flour amounts to 893,000,000 bushels or 57,000,000 bushels less than the available supply of domestic wheat for last year.

The amount of wheat that farmers retain on the farm for seed, feed, and reserves varies so much from year to year that no definite figure can be given as the requirement for this year. It is estimated that nearly 89,500,000 bushels of last year's crop was used for seed. In August of this year the winter wheat producers declared their intention to reduce the acreage in wheat about 15 per cent. A favorable seeding season in some parts of the winter wheat belt has probably encouraged farmers to sow a little more wheat than they had intended. If they reduce 10 per cent, the amount of seed required will be about 80,000,000 bushels. In a recent survey, however, farmers estimated seed requirements for the year at 9.3 per cent or 72,700,000 bushels. Farmers have declared their intention to feed this year 11.6 per cent of the crop. Feeding this percentage of the crop would take off the market 90,700,000 bushels. At the time this survey was taken the price of corn was high and the price of wheat so low that in parts of the country it was economical to feed wheat rather than corn. If the price of wheat improves toward the end of the year and the price of corn declines as the new crop comes into the market, the amount of wheat fed may be less than the amount intended. Stocks on farms at the end of last year amounted to over 35,600,000 bushels. Farmers will have to retain on the farms 199,000,000 bushels if declared intentions as to feeding and seeding are carried out and stocks on farms at the end of the year are the same as last year. This is probably a maximum figure and may be reduced to 150,000,000 bushels by failure to carry out fully expressed intentions.

On the basis of the above estimates, at the beginning of the year between 694,000,000 and 743,000,000 bushels of wheat were available for food and reserves in the United States and for export. There is no exact measure of the annual food consumption. The per capita consumption last year

computed on the basis of flour production and disappearance was 4.7 bushels. The per capita disappearance of wheat for food and feed was about 5 bushels. Reports from farmers indicate that the usual feeding is 3.5 per cent less than the intentions for this year. Applying this estimate to last year's production would reduce the per capita food consumption to 4.35, which seems too low. At the higher rate of 4.7 per capita, 523,000,000 bushels would be required for food,

SEASONAL MARKETING OF WHEAT FROM FARMS, SEASONAL RECEIPTS AT 11 MARKETS, AND SEASONAL EXPORTS. AVERAGE, JUNE, 1910–JUNE, 1920.

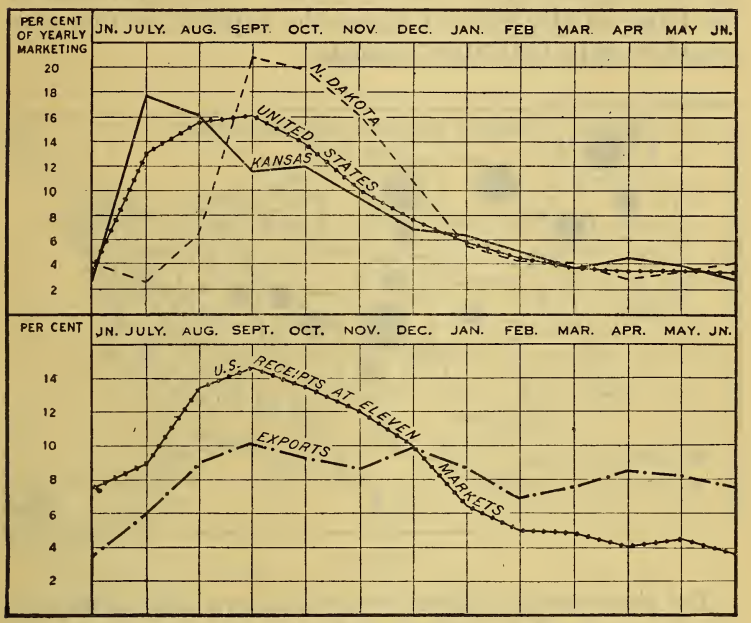


FIGURE 6.

leaving between 171,000,000 and 220,000,000 bushels for reserves and exports. Of this amount between 95,000,000 and 134,000,000 bushels could be exported without reducing stocks below the amount on hand at the end of last year. The amount exported may be increased, of course, by reducing stocks or maintaining a per capita consumption lower than that for which allowance has been made.

Farm marketing this year has progressed about as usual. By October 1, 48 per cent of the crop had been marketed as compared with 50 per cent for the same period last year, 57

per cent in 1921, and 41 per cent in 1920. Approximately 70 per cent of the farm sales for the year will have been made by December 1.

Exports in the first four months of the year amounted to 74,000,000 bushels, as compared with 115,000,000 bushels last year. Last year 52 per cent of the total exports was shipped in the first four months of the year. At this rate of exportation the total exports for this year would be about 142,000,000 bushels. Since crops in Europe are good this year, it is doubtful that this rate will be maintained. In 1921–22 the exports in this period were 58 per cent of the total, on the basis of which the exports for this year would be only 128,000,000 bushels.

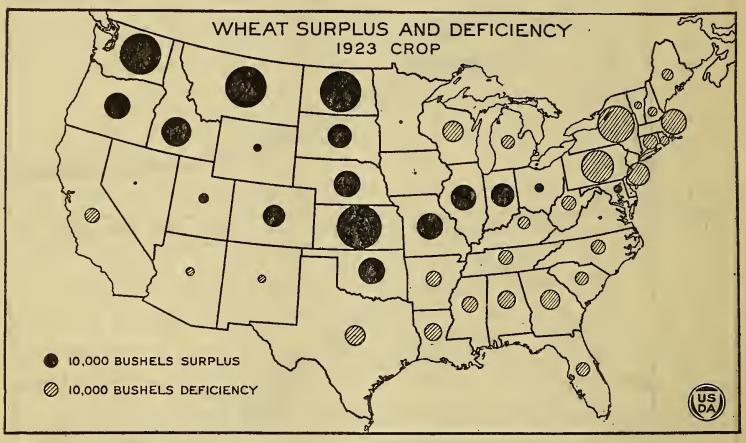


FIGURE 7.

The above export figures do not take into account imports which amounted to 20,000,000 bushels last year. An increase in the imports would, of course, make possible larger exports.

LOCATION AND CHARACTER OF OUR WHEAT SUPPLY.

The location of production, the class and the quality of wheat are important factors in marketing it. Only five States east of the Mississippi River produced in 1923 more than they would consume at the pre-war rate of consumption, and the surplus in these States would be far short of supply-

ing the needs of the other States east of the river. As a matter of fact some of this wheat is exported, and wheat and flour from territory between the Mississippi and the Rocky Mountains are shipped east to replace exports and to make up deficiencies in production.

The production of wheat west of the Rockies is estimated to be 143,000,000 bushels, which is 43,000,000 bushels greater than last year. On the basis of apparent average annual consumption as food and feed in the last five years, 1918–1922, this region could export 92,000,000 bushels in the form of wheat and flour.[1] If the amount fed to livestock in this part of the country is increased by 5,000,000 bushels, the amount available for export would be 87,000,000 bushels, provided the food consumption of wheat is not increased. The production east of the Rockies this year is 117,000,000 bushels less than last year. However, on the basis of the average disappearance in 1918–1922, this region could export approximately 83,000,000 bushels. If feeding east of the Rockies is increased by 22,000,000 bushels, the amount available for export would be 61,000,000 without reducing stocks or increasing food consumption. Even though there were only enough wheat east of the Rockies to supply domestic needs, under present conditions some wheat would be exported and other wheat would be imported from Canada. The special demand for Hard Red Spring wheat causes some of this class to be imported even though some of the soft wheats have to be sent to markets outside of the United States.

Comparing estimates of production by classes this year with last year we find that there has been a considerable decrease in the production of Hard Red Spring wheat, Durum, and Hard Red Winter. On the other hand there has been an increase in the production of Soft Red Winter and White wheats. The records of Federal grain inspection throw some light on the marketing of the different classes. Unfortunately for the purpose of this study, the exports of flour can not be distributed to classes of wheat.

[1] Computed on the basis of the average annual disappearance in the United States for food and feed distributed per capita by States as found in a survey made in 1911, and seed requirements with a reduction of 15 per cent in the winter wheat area. Spring wheat area same as last year.

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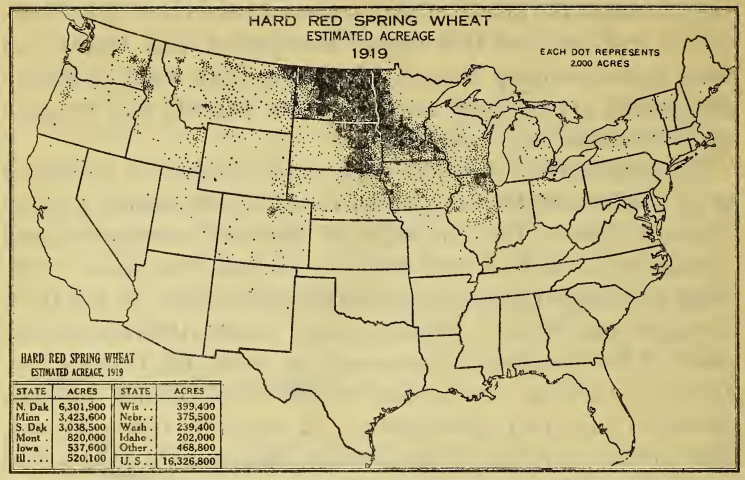


FIGURE 8.

The 1923 crop of Hard Red Spring is estimated to be about 134,000,000 bushels, which is 23,000,000 bushels less than the average of the three years 1920–1922. Exports, including inspections at Gulf and seaboard points and estimates of shipments through Canada and of shipments mixed with other wheat, averaged in this period about 25,000,000 bushels. Imports from Canada have contributed to the

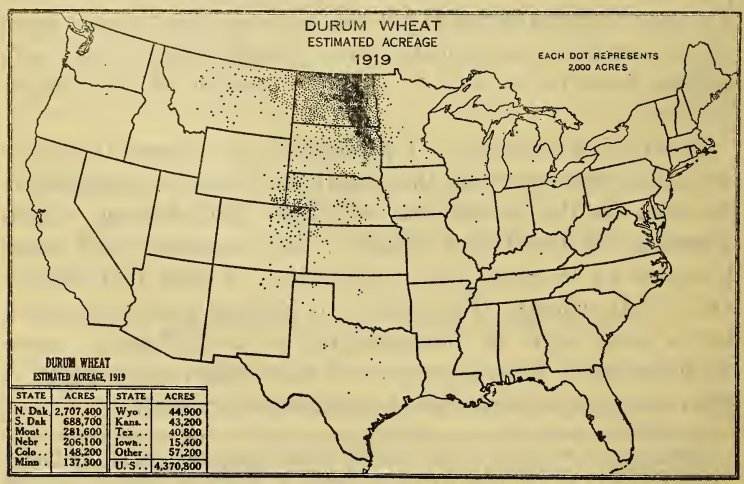
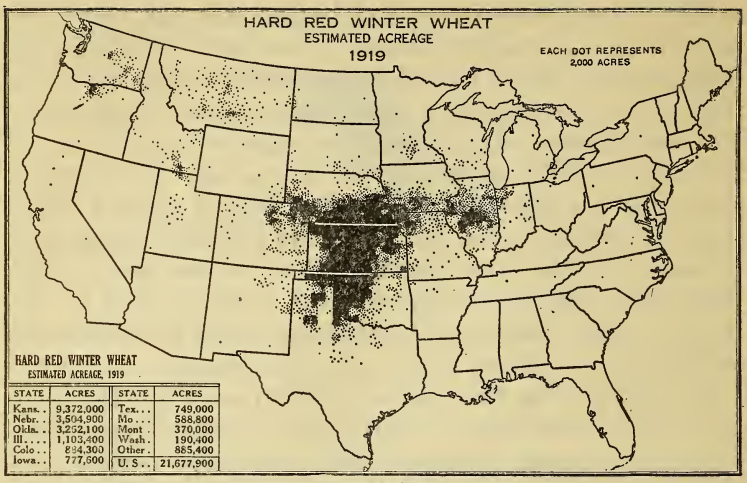


FIGURE 9.

available supply about 28,000,000 bushels per year, 50,000,000 in 1920–21, and smaller amounts since then. The average disappearance in the United States, therefore, for the years 1920–1922 was greater than the estimated production for 1923. Presumably some of this wheat was exported in the form of flour, but we have no measure of the amount. It is evident that there is a shortage of Hard Red Spring wheat to meet the mill demand in the United States for such wheat, and consequently the market for this wheat is now upon an import basis, with prices determined to a large extent by the price at which Canada will sell spring wheat plus the tariff and other costs of bringing it into this country.

Notwithstanding that the crop of Durum wheat this year is but little more than one-half of the crop last year, being 46,000,000 bushels compared with 85,000,000 bushels, the market for this wheat is upon an export basis. The average production for the three years 1920–1922 was 59,000,000 bushels, of which approximately 35,000,000 bushels were exported, leaving only about 24,000,000 bushels for use in the United States. Therefore, unless consumption is increased over the average, approximately 22,000,000 bushels may be exported in 1923–24 without reducing stocks. About one-half of this amount was exported in the first four months of the year.

In recent years Hard Red Winter wheat has constituted a considerable part of our exports. The production of this wheat in 1923 was approximately 220,000,000 bushels, which is 48,000,000 bushels less than last year and 59,000,000 bushels less than the average of 1920–1922. The average export in the three years 1920–1922 has amounted to about 95,000,000 bushels. The reduction in the crop leaves only about 46,000,000 bushels available for export without reducing the average available supply. Some increase in feeding and in the use of this wheat to mix with hard spring in the manufacture of flour will provide an outlet for some of the balance otherwise available for export. Over 13,000,000 bushels of this wheat have been exported and our markets are still on an export basis, although good premiums are being paid for hard winter wheat with high gluten con-



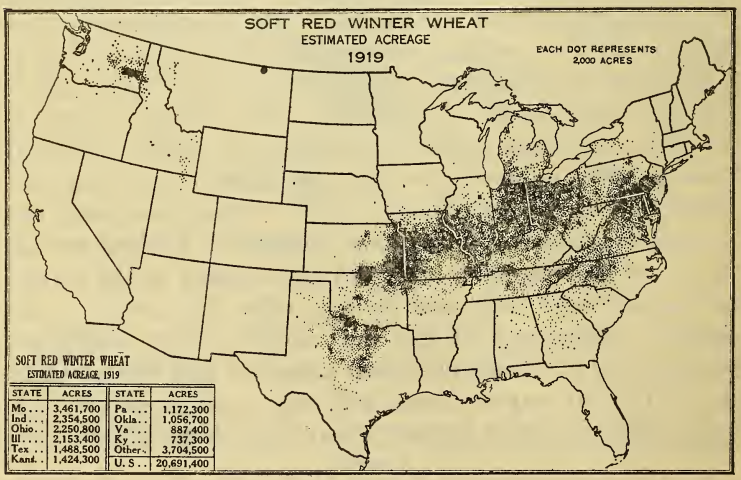
HARD RED WINTER WHEAT
ESTIMATED ACREAGE, 1919

STATE	ACRES	STATE	ACRES
Kans.	9,372,000	Tex.	749,000
Nebr.	3,504,900	Mo.	588,800
Okla.	3,252,100	Mont.	370,000
Ill.	1,103,400	Wash.	190,400
Colo.	894,300	Other.	885,400
Iowa.	777,600	U. S.	21,677,900

FIGURE 10.

tent, which indicates that there is a strong domestic milling demand for the best quality of this wheat.

Both the Soft Red Winter and the White wheats are on an export basis. The production of the Soft Red Winter is estimated to be about 265,000,000 bushels, which is 21,000,000 bushels above the average of 1920–1922. Exports amounted to about 30,000,000 bushels. The increase in production would



SOFT RED WINTER WHEAT
ESTIMATED ACREAGE, 1919

STATE	ACRES	STATE	ACRES
Mo.	3,461,700	Pa.	1,172,300
Ind.	2,354,500	Okla.	1,056,700
Ohio.	2,250,800	Va.	887,400
Ill.	2,153,400	Ky.	737,300
Tex.	1,488,500	Other.	3,704,500
Kans.	1,424,300	U. S.	20,691,400

FIGURE 11.

therefore increase the amount available for export to about 50,000,000 bushels. The production of White wheat is 20,000,000 bushels in excess of the average of the past three years, making a total of 117,000,000 bushels, of which about 50,000,000 may be exported without reducing stocks or domestic consumption. Increased feeding will reduce the exportable surplus of these two classes of wheat by about 15,000,000 bushels, leaving about 85,000,000 to be exported unless further reduced by increased food consumption.

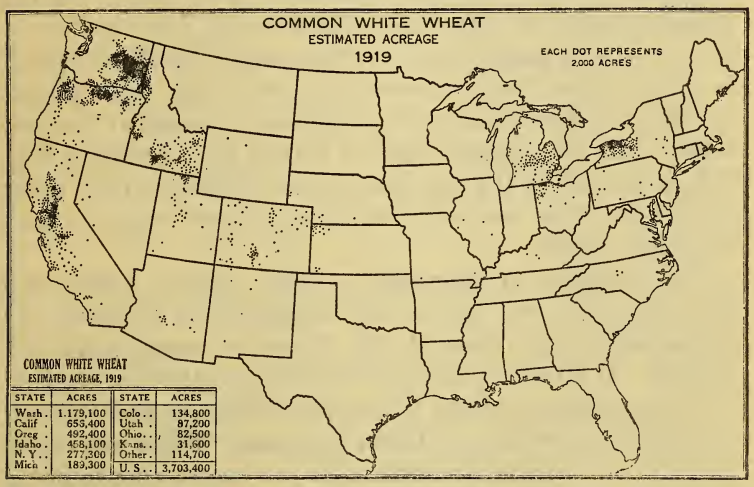


FIGURE 12.

The export of flour also must be taken into account in considering the market for wheat. The exports of flour in the past three years have averaged 15,620,000 barrels, or an equivalent of 70,290,000 bushels of wheat. The exports of flour in four months this year have amounted to 6,000,000 barrels, or 27,000,000 bushels. It is evident that unless millers pursue the policy of dumping flour into foreign countries at prices somewhat below the domestic price, the price that they can pay for wheat to make flour is determined by the market for the wheat abroad as well as the market for the flour. A considerable amount of flour exported, however, is of the lower grade. The selling of the lower grade at relatively low prices is one means of disposing of the surplus flour while retaining in the country the wheat offals and the

best grade of flour for domestic consumption. As long as the domestic demand for high-grade flour and wheat offals is strong, millers may pay better prices for wheat than they could afford to pay if the market for a considerable amount of the best grade of the flour had to be found abroad.

To summarize the situation relative to a market for surplus wheat, it may be said that for this year it is necessary to find a market for a considerable quantity of Soft Red and Soft White, some Hard Red Winter and Durum wheat. Domestic millers will pay relatively good prices for the highest grades of wheat to be used in the manufacture of flour for the domestic market. The market for Hard Spring is on an import basis, whereas the markets for other wheats are on an export basis with premiums for some of the best wheat. At the present rate of export it is probable that before the end of the year the market for some of the other classes of wheat also may be on an import basis, at least for some grades.

The problem of disposing of the surplus wheat will diminish from year to year as the population increases and consequently the demand for domestic consumption increases. It must not be expected, however, that the demand will immediately return to the pre-war basis and increase in proportion as the population increases. There was before the war an apparent reduction in per capita consumption. Such data as are available indicate that the urban consumption of wheat is less than the rural consumption. As the proportion of industrial population increases the consumption per capita may decrease. At the rate of 5 bushels per capita for food, which is slightly less than the pre-war average and a slight increase over last year, about 670,000,000 bushels of wheat would be required for seed, the usual feed and waste, and for food in the United States in 1924–25. With a ten-year average yield per acre of 14.4 bushels, nearly 47,000,000 acres would be required to produce it. Allowing for average losses in winter wheat area, about 52,000,000 should be sown. This is a reduction from the area seeded last year of 13,000,000 acres, or 20 per cent. This reduction properly distributed among growers of Durum, Hard Winter, Soft Red, and White Winter wheat

PRICES OF WHEAT, WHEAT FLOUR, AND BREAD AT MINNEAPOLIS AND OF WHEAT FLOUR AT NEW YORK CITY, 1913–14 TO 1922–23.

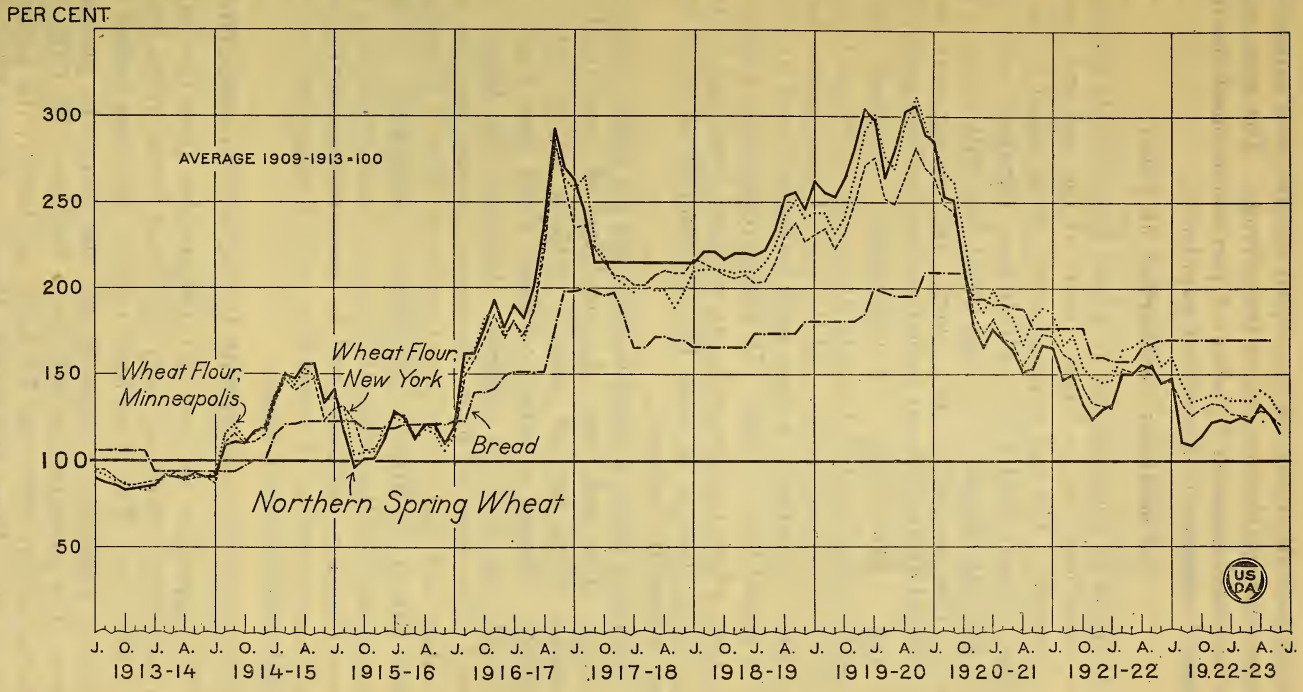


FIGURE 13.

would take all classes off the export market basis except in years when yields were above the average. The area may be increased annually by about 1 per cent to meet the increase in demand by growth of population.

THE DECREASED CONSUMPTION OF WHEAT.

Decrease in consumption of wheat flour in this country has contributed to the large exports of the war and post-war periods. The war appeal to save bread, aided by high prices, formed food habits which have remained with us. The pre-war custom of serving bread free with every *a la carte* order in restaurants, hotels, and dining cars was abandoned during the war period and has not been generally revived. "Free bread" is undoubtedly consumed more liberally than bread at the rate of two slices with a nickel order of bread and butter. At the rate of a cent and a half per slice, the cafeteria patron pays between 25 and 30 cents for a pound loaf of bread. In hotels, restaurants, and dining cars, where the charge for an order of bread and butter may be as high as 20 cents, the consumption of bread has been materially reduced.

The retail price of bread in cities has not fallen with the price of wheat and flour. A pound loaf of bread in Minneapolis which cost 5.3 cents in 1913–14 cost 9 cents in 1922–23, whereas a barrel of flour which cost $4.43 in 1913–14 cost $6.89 in 1922–23. Allowing 280 loaves of bread to the barrel of flour, the margin between the price of the flour and that of the bread produced from it increased from $10.40 to $18.30. Doubtless a narrowing of the margin between the prices of flour and bread would lead to more liberal use of bread and to some increase in the per capita consumption of wheat flour, with a consequent reduction in the surplus of wheat.

FREIGHT RATES AS A FACTOR IN THE WHEAT SITUATION.

The increase in the cost of transportation from the farm to consuming centers is a very important factor in the present situation. The rates from country shipping points to primary markets are about 45 per cent above the pre-war rates. For example, the rate from Larimore, N. Dak., to Minneapolis in 1913 was 7.2 cents per bushel; the present rate is 10.5. From McPherson, Kans., to Kansas City the

rate was 7.6 cents per bushel in 1913 as compared with the present rate of 11.4. Export rates in general have been increased more than 45 per cent. In 1913 the export rate from Chicago to New York amounted to 7.8 cents per bushel; to-day it is 13.5 cents, or 73 per cent above the pre-war rate. The export rate from McPherson, Kans., to Galveston was 15.6 cents in 1913; the present rate is 27 cents, or 73 per cent above the 1913 rate.

War conditions caused freight rates to be raised, reaching the high point in 1920. Unfortunately the highest rates of the period were put into effect after prices had begun to fall. It was no more burdensome to pay 19.8 cents for transporting a bushel of wheat from Chicago to New York while the price was $2.20 and above than it was to pay 7.8 cents before the war when the price was about $1 at Chicago. Since 1920 prices of wheat have fallen nearly to the pre-war level, whereas freight rates remain 45 per cent and more above pre-war rates.

Relatively high freight rates from producing regions of the United States to the seaboard are a serious handicap in competition with other countries in the markets of the world. The freight rates from points in Montana to Duluth are from 7 to 10 cents a bushel higher than the rates in Canada for the same distances to Port Arthur and Fort William at the head of the Lakes, from which the rates to Liverpool under normal conditions are substantially the same as from Duluth.

Freight rates on wheat for like distances from points in Montana to Duluth and Canadian points to Port Arthur.

Via Canadian National Railways.			Via Great Northern Railway.			Excess, United States over Canada, per bushel.
From Canadian points.	To Port Arthur, Ontario.		From Montana points.	To Duluth, Minn.		
	Distance.	Freight rate per bushel.		Distance.	Freight rate per bushel.	
SASKATCHEWAN.	*Miles.*	*Cents.*		*Miles.*	*Cents.*	*Cents.*
Maryfield	649	10.8	Snowden	650	18.0	7.2
Buchanan	754	11.4	Frazer	750	20.4	9.0
Regina	794	12.0	Vandalia	797	21.6	9.6
Briercrest	854	12.0	Wagner	856	22.5	10.5
Dalmeny	936	15.0	Havre	933	23.7	8.7
Conquest	1,002	15.0	Teton	1,004	25.2	10.2

The highest rate to the head of the Lakes from any point in western Canada, as shown in the 1922 report of the Grain Trade of Canada, is 17.4 cents per bushel from Athabasca, Alberta. From Calgary, Alberta, to Port Arthur, a distance of 1,339 miles, the rate is 15.6 cents per bushel. In the United States the rate from Teton, Mont., to Duluth, a distance of 1,004 miles, is 25.2 cents, a difference of 9.6 cents in favor of the Canadian wheat grower of Calgary.

While the foregoing comparisons are not intended to represent the rates which apply to the average distances to the head of the Lakes from wheat regions on each side of the border, the comparisons nevertheless emphasize the inequality of freight rates in so far as they affect the wheat grower in Montana. Whether Montana wheat is exported to foreign markets or shipped to the Minneapolis mills is not material, so far as its effect on the price received by the farmer is concerned. In either event the price paid to the Montana farmer is substantially the price at the primary markets at Duluth and Minneapolis, less the cost of handling and transportation from the country shipping point.

It is of interest in this connection that while freight rates in the United States are still 45 per cent and more above the 1913 level, Dominion rates from the western Provinces to Port Arthur are practically on a pre-war basis. In line with the policy of the United States, the Canadian freight rates were increased several times between 1916 and 1920. Beginning with January 1, 1921, however, reductions were made from time to time so that by July 6, 1922, rates were only from 1 to 4 cents per hundred pounds in excess of the 1913 rates. The reduction made July 6, 1922 amounted to in many cases from 9 to 11 cents per hundred pounds or a decrease of from 26 to 28 per cent. This reduction offsets in part the effect of the tariff duty imposed by the United States upon the importation of wheat. For example, at Scobey, Mont., wheat grown both in Canada and in the United States must pay 22.5 cents per bushel freight to Duluth, while wheat from Regina, a point on a Canadian railway 90 miles farther from the head of the Lakes, pays only 12 cents to Port Arthur. Adding 3 cents for lake freight to Buffalo, the transportation charges on a bushel of wheat from Regina to Buffalo plus duty is 45 cents.

whereas the transportation charges alone from Scobey amount to 25.5 cents, leaving a differential against the Canadian grower at Regina of only 19.5 cents per bushel or 10.5 cents less than the tariff.

In comparison with the central wheat-growing regions of the United States, Canada has an advantage in that the bulk of the Canadian wheat for export moves to the seaboard via the Great Lakes. This cheap water transportation for a good portion of the inland haul, together with the lower rail rates, brings many of the Canadian wheat growers nearer to Liverpool than the producers of central Kansas. For example, the combined rate from Regina to Liverpool through New York amounts to 29 cents per bushel, whereas the combined rate from McPherson, Kans., to Liverpool through New Orleans or Galveston is 35.5 cents.[1]

Argentine wheat, which must pay higher rail rates per mile, but only for a short distance, enjoys an advantage of approximately 10 to 12 cents per bushel in the combined rail and ocean rate to Liverpool.

In the war period scarcity of shipping and high ocean rates placed the United States and Canada in very advantageous positions for marketing wheat in Europe in competition with Argentina and Australia. This advantageous position was an important factor in stimulating a great expansion of the wheat production in Canada and in the United States, whereas Argentina and Australia reduced production because they could not advantageously sell the wheat. Since the war, keen competition among ocean carriers has reduced the rates so greatly that they are in most cases practically on a pre-war basis. This is encouraging a revival and expansion of production of wheat in Argentina and Australia. On the other hand, high railroad freight rates place the United States wheat growers in a position even less favorable, with respect to the European markets, than the position which they held before the war.

A reduction of freight rates practically to the pre-war level would be necessary to place the United States in the pre-war position to compete with Canada in transportation

[1] These combined rates may vary from day to day on account of variations in lake and ocean rates.

costs to European markets. Such a reduction also would again place the Kansas farmer approximately in the same position to compete with the Argentine farmer that he held before the war.

It is recognized that some railroads depend largely upon wheat for revenue. It seems evident, however, that in the long run such roads may profit by carrying wheat in a period of depression at little or no profit in order that agriculture may be maintained as a source of revenue in periods of prosperity. Low freight rates have aided in the settlement and development of a large part of the wheat growing regions. Low rates may be as necessary to maintain this development through periods of depression as they were to secure the settlement and development.

It is recognized also that a reduction of freight rates to pre-war levels would not raise the price of wheat sufficiently to give the wheat grower pre-war purchasing power. A reduction, however, would contribute to an improvement in the situation and should be made without delay, to remain in effect until the prices of wheat are more nearly on a par with the prices of other products. Economically it would seem wise to reduce the burden of freight rates upon low-priced commodities such as wheat, and to make up for the loss in revenue by increasing rates upon high-priced commodities.

CANADIAN COMPETITION IN WHEAT PRODUCTION AND THE TARIFF.

Canada in recent years has greatly expanded her production of wheat and is now our most formidable competitor in the markets of the world. Her wheat crop this season is almost 470,000,000 bushels, as compared with an annual average production of 197,000,000 bushels in the period 1909–1913. This represents an increase of 273,000,000 bushels, or 138 per cent. The population of Canada in 1921 numbered a little less than 9,000,000. Canada's wheat production is hence greatly in excess of domestic requirements. She must, therefore, find and hold foreign markets for her wheat or materially reduce her acreage. As a competitor in the world markets, the position of Canada is

measured by her exports of wheat and flour, which in the year 1922–23 amounted to 274,000,000 bushels net, as compared with a pre-war average of 94,000,000. The United States exported in 1922–23 less than 202,000,000 bushels net, as compared with 103,000,000 before the war.

The prairie Provinces of Manitoba, Saskatchewan, and Alberta account for most of the expansion in Canadian wheat production. These three Provinces contain 97 per cent of the 1923 wheat acreage and have produced about 95 per cent of the crop. The average wheat area of these Provinces before the war was about 9,000,000 acres; in 1923 it is reported at over 21,500,000.

Although rapid progress has been made during recent years in the settlement of western Canada, large bodies of virgin land suited to wheat production are still undeveloped. Various estimates place the arable land in these Provinces at figures ranging from 170,000,000 to 270,000,000 acres. At present less than 40,000,000 acres are in cultivation, of which 55 per cent is in wheat. A network of railroads covers the southern half of the region and extensive tracts of virgin land lie within reach of transportation.

The further development of these lands hinges in no small measure upon an increase in population. Immigration to Canada, which was relatively heavy preceding the war, declined materially during the years 1916 to 1919, but has since revived considerably. During the fiscal years 1920 and 1921 the immigrant arrivals in Canada numbered over 265,000. One-third of these immigrants went to the prairie Provinces, and a large number of them no doubt engaged in farming. Shortly after the war, the Western Canada Colonization Association was formed with the purpose of promoting the settlement of large numbers of immigrants on the vacant lands of western Canada. In developing this program, that association, according to an official statement, has secured the cooperation of the Imperial Government as well as the Dominion and Provincial authorities and the transcontinental railway companies.

COMPARATIVE ADVANTAGES OF CANADA IN WHEAT PRODUCTION.

The Canadian wheat farmer enjoys substantial advantages over the American producer in the matter of yields,

land values, the quality of wheat he produces, and lower freight rates from points equally distant from markets.

The yield of wheat, which is a very important factor in the cost of production, is materially higher in western Canada than in many of our wheat-producing States. The average yields of spring wheat in the prairie Provinces during the ten-year period 1913–1922 varied from 15 to 16 bushels per acre. In Minnesota, North Dakota, South Dakota, and Montana for the corresponding period they ranged from 10.6 to 14.3 bushels. Winter wheat yields on harvested acreage in Nebraska, Kansas, Colorado, Oklahoma, and Texas averaged, for the same period, from 12.6 to 16.2 bushels. These figures do not reflect the losses resulting from abandoned acreage. In the Pacific Northwest yields have been somewhat higher than in Canada, but this advantage has been offset to a considerable extent by higher land values. The significance of Canada's higher yields is apparent. A recent study of wheat costs in the United States brings out the fact that the cost per bushel for farmers who had yields ranging from 19 to 25 bushels per acre was 31 per cent less than for those who had yields varying from 7 to 13 bushels.

The capital invested in land is also materially lower in Canada than in the United States. The average value of farm lands in 1922 for Canada as a whole was $40 per acre as compared with $79 for the United States. In the prairie Provinces average land values ranged from $24 to $32; in 11 of the western wheat States the range was from $46 to $110. Montana is the only important wheat State in which the average value of land is not materially higher than in the prairie Provinces. It is significant also that land values in Canada during the war were marked up to a relatively slight degree. Between 1914 and 1920 the average value of land in the United States increased $35 per acre; in Canada the average increase was only $11. In the same period lands in the prairie Provinces advanced on the average from $7 to $11 per acre; in 11 western wheat States the increase ranged from $10 per acre in Colorado to $61 in Nebraska. It is evident, therefore, that the American wheat farmer has a much heavier per acre investment in

land than his Canadian competitor and a correspondingly larger interest burden.

Canadian farmers have another advantage in the superior quality of their wheat. It is high in protein and much valued by foreign millers for mixing with softer wheats. The hard spring wheat of Canada for many years has sold at small premiums over both American Hard Spring and Hard Winter wheats in Liverpool, although at times the price has fallen slightly below. During the past two years the premiums paid for No. 1 Northern Manitoba over American No. 2 Hard Winter wheat in Liverpool when prices on both grades were reported have averaged 9 cents. Sales of American Hard Spring wheat in Liverpool have been limited and quotations are scattered. When quoted during 1923 the premium on No. 1 Northern Manitoba has been about 5 cents over No. 2 Dark Northern Spring wheat in Liverpool. The excellent quality of the Canadian wheat is attested also by the fact that American millers purchase and import it in considerable quantities even though subject to a duty of 30 cents. Canada's more advantageous position in the production of hard spring wheat is apparent. The present Canadian spring wheat crop is placed at 450,000,000 bushels. This volume of superior hard spring wheat competes with the spring wheat crop of Minnesota, North Dakota, South Dakota, and Montana which is estimated this season at 143,000,000 bushels.

As indicated in greater detail elsewhere, more favorable freight rates give the Canadian wheat farmer substantial advantages over a great many American producers. Most of the wheat exported from Canada moves from the head of Lake Superior to Montreal and the Atlantic seaboard of the United States via the Great Lakes. This affords cheap water rates for a good portion of the haul to the seaboard. Canadian wheat also enjoys the advantages of a relatively lower freight rate from the western Provinces to the head of the Lakes, compared with the rates to Duluth from corresponding distances in the Northwest.

While satisfactory comparisons between the cost of producing wheat in Canada and the United States can not be made on the basis of available studies, it is quite apparent that the Canadian farmer has advantages which enable

him to produce wheat at materially lower costs per bushel than the American farmer.

THE EFFECT OF THE TARIFF ON WHEAT PRICES.

The tariff has been effective in protecting the spring wheat farmer. In Liverpool, Canadian spring wheat ordinarily sells at a small premium over American spring wheat. On the other hand, a comparison of prices for com-

MARGINS OF AMERICAN OVER CANADIAN HARD SPRING WHEAT PRICES, SEPTEMBER, 1920–SEPTEMBER, 1923.

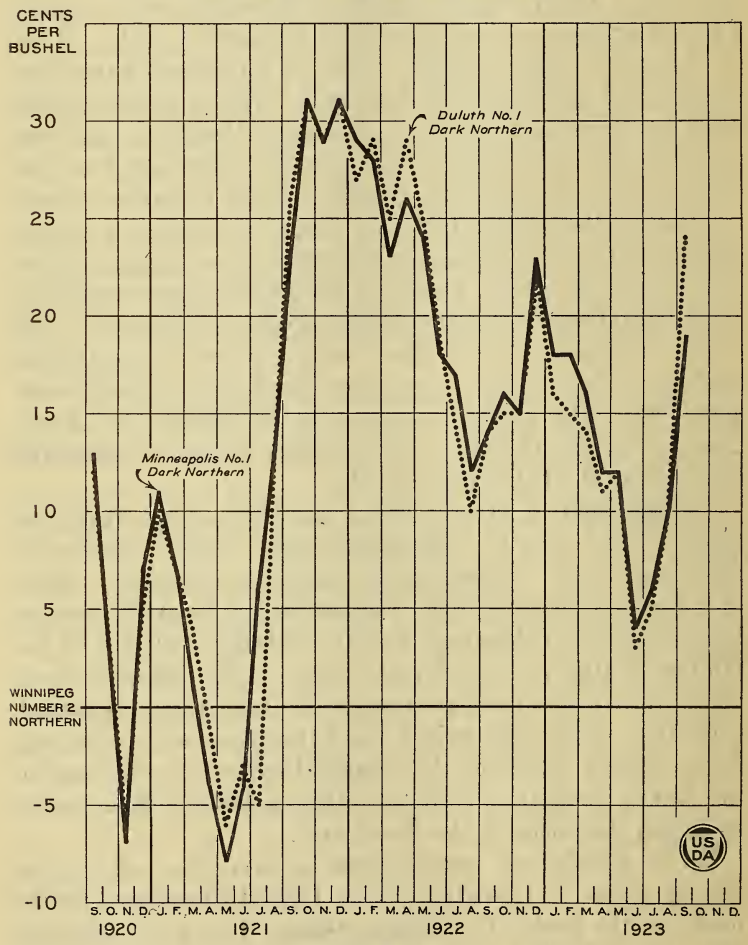


FIGURE 14.

parable grades of spring wheat in American and Canadian markets which have practically the same transportation rates to Liverpool shows a margin in favor of American prices which can only be explained as an influence of the tariff.

The Minneapolis price of No. 1 Northern Spring in the period from 1909 to 1913, when a 25-cent tariff was in force, ranged in general from 5 to 10 cents above Winnipeg No. 1 Northern. Under a reduced tariff of 10 cents per bushel, prices at the two markets from 1913 to 1916 were practically on a level. From 1916 to 1920, controlled prices and other conditions incident to the war destroyed normal price relationships.

With the release of Government control, Winnipeg prices, in the latter part of 1920, when no tariff was in effect, rose to a level with, and at times somewhat above, Minneapolis. After the emergency tariff went into effect, in May, 1921, however, Winnipeg fell to around 25 to 30 cents below Minneapolis, remaining near that level for the balance of the year. The difference narrowed early in 1922, and the Canadian market since that time has fluctuated from 6 cents above to 22 cents below Minneapolis.

Winter wheat prices appear to be less affected by the tariff. American winter wheat at Kansas City is usually above Canadian spring wheat from October to May or June and below during the summer months, when the bulk of the American crop is moving to market. Under the 25-cent tariff existing before the war the average monthly margins in the two periods practically offset one another in amount, but under the 10-cent duty in force from 1913–1917 Winnipeg prices averaged from 5 to 7 cents above Kansas City. Under our post-war tariffs Winnipeg prices from June, 1921, to September, 1923, averaged 5 cents above Kansas City, but this average in favor of Canadian wheat has been due to the high margins that obtained during the summers of 1921 and 1922. Kansas City Hard Winter wheat prices have averaged 2 cents above Winnipeg during the past twelve months, and in the month of October averaged 14 cents above Winnipeg.

The beneficial influence of the tariff is also illustrated by comparing prices of wheat in Liverpool with prices in pro-

ducing countries plus cost of transportation to Liverpool. Prices of Canadian wheat in Liverpool averaged for the year 1922, 10 cents, and for nine months of 1923, 6¾ cents above Winnipeg prices plus freight on the basis of an all-

MARGINS OF AMERICAN WINTER WHEAT OVER CANADIAN SPRING WHEAT PRICES, SEPTEMBER, 1920–SEPTEMBER, 1923.

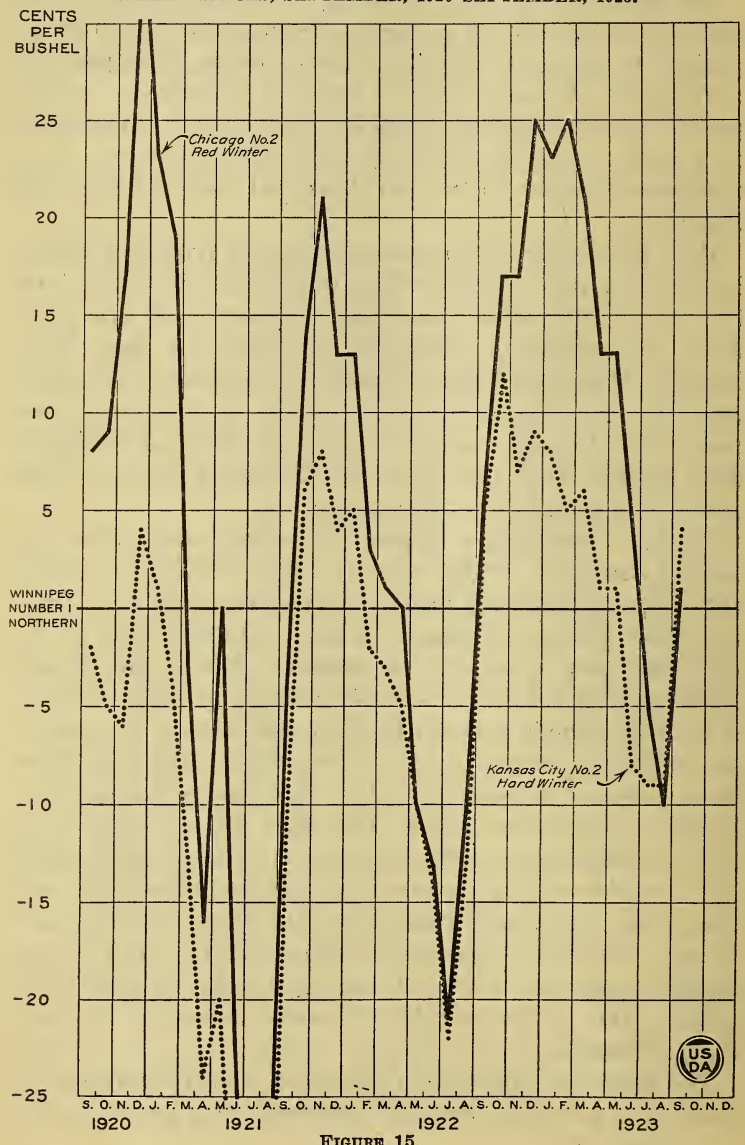


FIGURE 15.

rail rate to seaboard. During the month of October, 1922, they averaged as high as 30 cents per bushel above Winnipeg plus freight. Liverpool prices of American hard winter wheat, on the other hand, averaged during 1922 only 2 cents more than Kansas City plus freight, and during the early months of the year were considerably below. In January, 1923, Liverpool again dropped below Kansas City plus freight, and has averaged from 1 cent to 2 cents under during the first nine months of the year. American hard spring wheat, on the other hand, as shown by the limited data obtainable, has sold in Liverpool during the first half of 1923 at prices ranging from 3 to 15 cents below Minneapolis plus freight (all-rail). The average for the first four months, in fact, was about 13 cents below. Even No. 1 Manitoba which usually sells above No. 1 Northern in Liverpool was below No. 1 Northern Hard Spring at Minneapolis plus freight. These figures show that, on a Liverpool basis, Hard Red Spring wheat prices have been high throughout 1923, and indicate roughly the extent to which the tariff has raised prices of this wheat above world levels. It also appears that prices of hard winter wheat in the Kansas City market at times are favorably influenced by the tariff.

The present tariff has not prevented the importation of Canadian wheat for domestic consumption.. Our total imports of Canadian wheat from May, 1921, when the emergency tariff went into effect, to June 30, 1923, amounted to 32,567,664 bushels, of which 22,642,059 bushels were imported in 1922. Forty-seven per cent of this was milled in bond and exported as flour. Drawback was paid on only 4,638 bushels. The balance was consumed in the United States.

The transit movement in bond of Canadian wheat through the United States for export from our seaports is not affected by the tariff and should not affect prices in this country. This movement is, however, much larger than our actual import trade. It mounted up during the war years, reaching as high as 127,000,000 bushels in 1916. In 1918, 1919, and 1920 it fell to 25,000,000 and below, but has since revived and is now approaching the hundred million mark.

The margin between prices of Canadian and American spring wheat has widened materially in the past several weeks. The price of Minneapolis No. 1 Northern Spring averaged 17 cents over Winnipeg No. 1 Northern for the month of September. This spread has increased to 22 cents for the month of October. On November 1 the margin of Minneapolis No. 1 Dark Northern over Winnipeg No. 2 Northern was 30 cents. This widening of the spread between American and Canadian prices is resulting in larger importations of Canadian wheat duty paid. In the face of larger world supplies the price of Canadian wheat is being depressed to the point where Canadian wheat can be expected to flow over the tariff wall in large volume and directly compete with American hard spring wheat unless the duty is materially increased.

THE FINANCIAL SITUATION OF FARMERS IN THE WHEAT REGIONS.

The indebtedness of farmers in various parts of the United States, especially in the West, has grown to burdensome proportions. There are a number of causes which account for this situation. Land values in the Middle West rose sharply during the war and some land was purchased by farmers at inflated prices. The number of farmers, however, who bought land during these years is not as large as usually thought. Surveys that have been made indicate that from 10 to 15 per cent of the farms in the United States changed hands during the years 1916 to 1920. It should also be noted that a great many farmers who purchased at exhorbitant levels have already lost their land. Still other farmers who did not buy land marked up the value of their land and other property, placed too much reliance upon this new and fictitious wealth and incurred liabilities in excess of their normal earning capacity.

Frequently the scale of farm operations and expenditures was materially expanded to meet the demand for increased production as well as to reap the benefit of war prices. In many parts of the dry-land wheat regions an extraordinary series of crop failures was experienced during the years 1917 to 1921. Farm operations in these years were conducted at

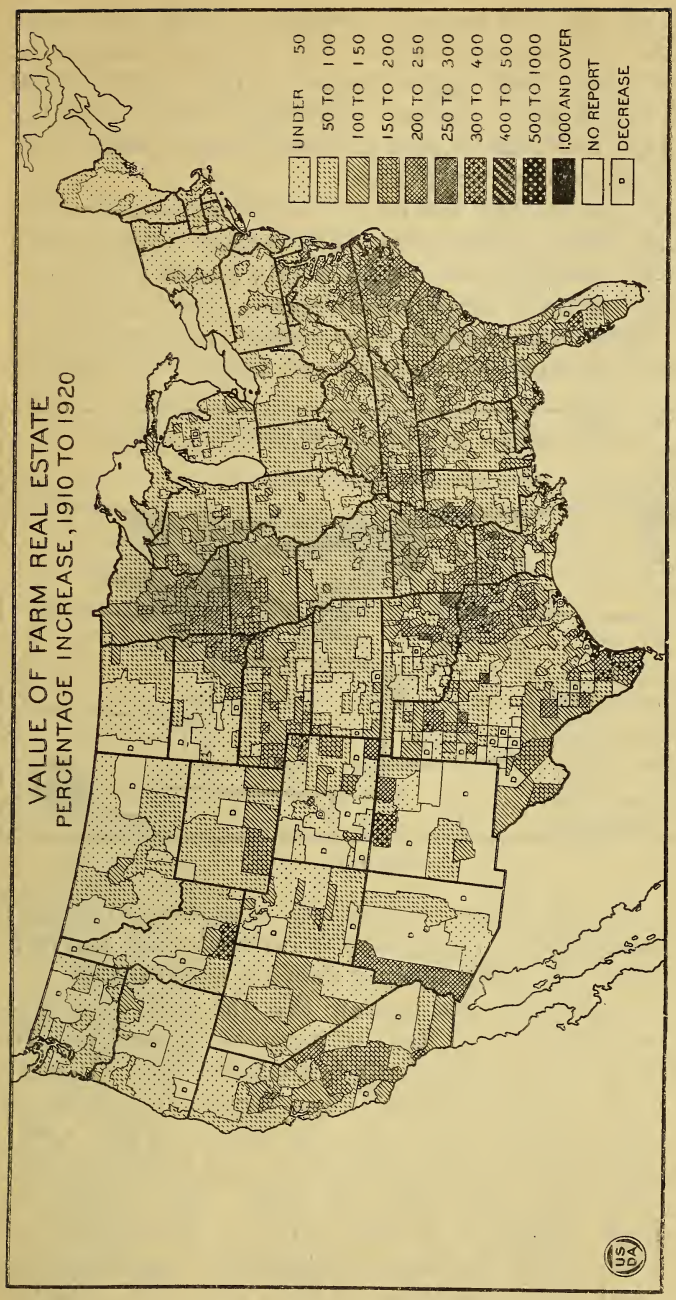

VALUE OF FARM REAL ESTATE
PERCENTAGE INCREASE, 1910 TO 1920
UNDER 50
50 TO 100
100 TO 150
150 TO 200
200 TO 250
250 TO 300
300 TO 400
400 TO 500
500 TO 1000
1,000 AND OVER
NO REPORT
DECREASE
USDA

FIGURE 16.

maximum costs, and instead of profiting by high prices farmers piled up additional debts. The financial situation in these dry-land wheat regions became, in fact, so serious that Federal funds to the amount of $8,500,000 were provided in 1918, 1921, and 1922 for seed and feed loans to enable farmers to continue their operations.

The degree to which farm debt has been increased is shown to some extent by the census. The average mortgage debt per owner-operated farm, which in 1910 ranged from $1,960 to $2,364 for the principal wheat regions, about doubled by 1920. These census figures do not include the mortgage debt on farms operated by managers and tenants. In addition

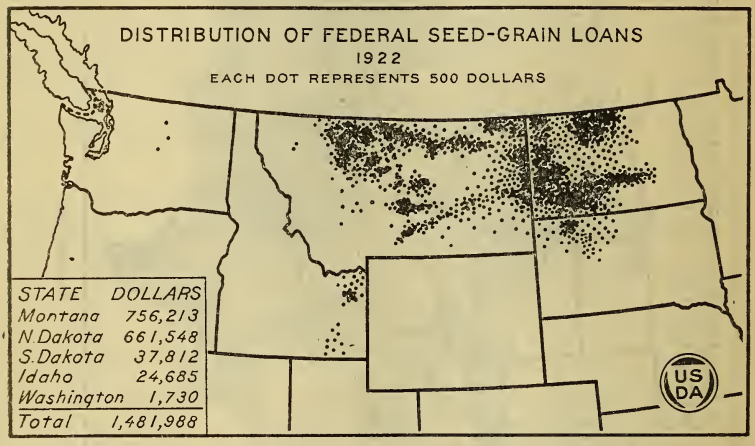


FIGURE 17.

to the farm mortgage encumbrance, a substantial part of farm indebtedness is represented by personal, bank, and merchant credit, for which separate data are not available.

The evidence does not indicate that the total volume of farm indebtedness is in itself of alarming dimensions. Its significance lies more especially in its distribution. In some parts of the more specialized wheat regions the burden of farm debt is much heavier than in others. Within every community there are farmers who have very little or no debt while others are very deeply involved. The situation on the average appears to be most serious in the semiarid regions where wheat farming is conducted as a specialized industry and under conditions of high crop risk. On the

other hand, many farmers in the better wheat regions purchased land at inflated prices or incurred other heavy liabilities during the war and are now carrying burdensome debts.

When price deflation came in 1920, farmers who had accumulated large debts were seriously embarrassed. While the majority of them have been successful in tiding over their financial difficulties, a substantial number have not. This situation is brought out in a special inquiry made by the Department of Agriculture in the spring of 1923. Reports were secured from 15 States covering the period January, 1920, to March, 1923. Out of over 68,000 owner-farmers included in this survey 4 per cent lost their farms through foreclosure or bankruptcy, 4.5 per cent lost their farms without legal proceedings, and a little over 15 per cent had been spared such loss up to March, 1923, only because of the leniency of their creditors. Out of almost 26,000 tenant-farmers, 7.2 per cent lost property through foreclosure or bankruptcy, 7.8 per cent lost property without legal proceedings, and 21.3 per cent retained their property merely as a result of the leniency of creditors.

According to this survey, the losses of farms and farm property were relatively most numerous in the Great Plains region. Applying the results obtained from these reports to the 1920 census figures for owners and tenants, it was estimated that the percentage of farmers who since 1920 had lost farms or other property ranged from 8.9 per cent of all farmers in Kansas to 28.3 per cent in Montana.

The seriousness of the situation is further reflected in the records of the bankruptcy courts. While the total number of bankruptcy cases among farmers is not large, it must be remembered that farmers as a rule do not resort to the bankruptcy courts when forced to give up property to creditors. The significance of the record lies, therefore, in the increase and distribution of such cases rather than in their absolute number. The records of the Department of Justice show that during the three pre-war years 1912–1914 an average of 5.5 per cent of all bankruptcy cases were farmers, while in 1922 the percentage was 14.4. The resort by farmers to bankruptcy courts was especially pronounced in the more specialized wheat regions. In the western winter wheat region farmer bankruptcy cases in the pre-war years averaged 8 per cent of all cases; in 1922 this percentage had in-

creased to 25. In the spring wheat region the percentage increased from almost 22 per cent of all cases in the prewar years to 48.9 per cent in 1922. The increase in bankruptcy among farmers in the Pacific Northwest States is also marked, particularly in Idaho, where almost 47 per cent of all cases put through the bankruptcy courts in 1922 involved farmers. The percentage of bankruptcies among farmers in 1922 was especially high in Iowa, Kansas, Nebraska, Colorado, North Dakota, South Dakota, Montana, and Idaho, ranging from 32.6 per cent of all cases in Nebraska to 78.5 per cent in North Dakota. Preliminary reports indicate that bankruptcies of farmers for the fiscal year ending June 30, 1923, will materially exceed those of 1922.

Further illustration of the financial distress of farmers in various parts of the West is found in the accumulation of delinquent farm taxes. Tax payments in some sections are in arrears from one to four years. In some of the wheat-growing areas of Kansas, for example, delinquent taxes since 1917 have increased in volume several hundred per cent.

The movement of population from country to city is in this connection very significant. In 1922 there was a net shift of 1,120,000 persons from farms to city, or about 3.6 per cent of the rural agricultural population at the beginning of the year. This cityward movement is a result of attractive urban wages, on the one hand, and inadequate returns in agriculture, on the other. From a survey of vacant farmhouses it appears that the percentage of all inhabitable farmhouses not occupied in the United States increased from 4.7 per cent in 1920 to 7.3 per cent in 1922. This abandonment of farmhouses was high in various sections of the country, but especially so in several States of the Great Plains region and the Pacific Northwest.

COST OF PRODUCING WHEAT.

The cost of the principal factors in the production of wheat advanced during the war less rapidly than the price of wheat, and a margin of profit was realized by farmers who obtained fairly good yields.

With the break in general prices in 1920 wheat declined much more rapidly than the cost of production. While the

price of wheat is now slightly above the pre-war level, the factors of cost are relatively much higher. This difference between wheat prices and production costs has resulted during the last few years in heavy losses to wheat farmers generally, and has borne down with special weight upon those who accumulated large debts during the war.

Practically all costs which enter into the production of wheat are considerably higher than before the war. Average monthly farm wages for the United States on July

FARM PRICE OF WHEAT AND THE COST OF IMPORTANT FACTORS IN WHEAT PRODUCTION, 1913–1923.

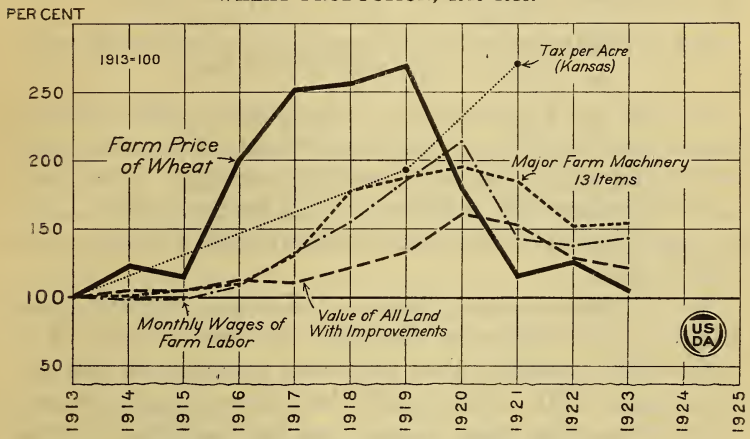


FIGURE 18.—Data for 1923 as of September 1.

1, 1923, were 59 per cent above the 1913 level. Day wages at harvest time had increased even more. In Kansas the day wage in harvest was 82 per cent above 1913. This fact is of special importance in commercial wheat-producing regions where the bulk of the harvest labor is supplied by day hands. Interest charges which farmers must pay have increased with the accumulation of debts. Wholesale prices of the more common farm implements were this season from 45 to 59 per cent higher than in 1913, and retail prices were considerably higher. Threshing rates in various sections of the wheat territory ranged this fall from 7 to 15 cents per bushel, or 50 per cent more than in 1913.

The burden of taxes in many regions has become excessive. Taxes on farm lands in Kansas increased 171 per cent between 1913 and 1921, in South Dakota, 129, and in the

eastern 20 counties of Washington, 237 per cent. With the exception of South Dakota, taxes in these States have continued upward since the war. It should be observed that a substantial part of public funds is expended for local improvement purposes, such as roads, and that from 80 to 90 per cent of such taxes in Kansas and South Dakota, for example, are levied by local government units. The remedy for high taxes in some regions, therefore, rests in large measure with farmers themselves. No doubt the ready market for tax-exempt securities also accounts in part for some of the ill-advised expenditures in local improvements.

COST OF WHEAT PRODUCTION IN REPRESENTATIVE WINTER AND SPRING WHEAT REGIONS, 1913–1923.

In 1919 the Department of Agriculture made extensive studies of the cost of producing wheat in representative winter and spring wheat areas of the country. From basic material gathered in this study it has been possible to show the approximate fluctuations in wheat costs for the period 1913 to 1923.

In the winter wheat States of Kansas, Nebraska, and Missouri, the relation of the price of wheat to the cost of production, excluding land rent, was favorable to the producer until 1921. During the last three years, however, wheat farmers in these States have had no return for the capital invested in wheat land and have lacked from $0.70 to $2.60 per acre of receiving enough to pay the other costs of production.

In the spring wheat States of North and South Dakota and Minnesota the price of wheat has been sufficient to cover the net cost, excluding land rent, for seven of the past eleven years, although during some of these years very little was left for use of land after paying other costs. Since 1919 the price has been insufficient to pay for the use of land and has lacked from $0.10 to $3.42 per acre of covering other production costs.

More favorable yields in the winter wheat regions have been the main factor in making winter wheat production less expensive than that of spring wheat. For the eleven-year period 1913–1923 in the spring wheat region the computed average net cost of wheat production, exclusive of land

rent, varied from $0.59 to $2.19 per bushel, whereas in the winter wheat region covered by the study the variation was from $0.52 to $1.44 per bushel.

RELATIVE COSTS OF WHEAT PRODUCTION IN SUBHUMID AND SEMIARID REGIONS.

A substantial part of both winter and spring wheat is produced in the semiarid regions of the West where, owing to low and uncertain precipitation, winter killing, hail, and other causes, the risk is high.

Ford County, Kans., is representative of semiarid conditions in the winter wheat region. In this county, in ten out of the last twelve years, there has been an abandoned acreage ranging from 6 to 92 per cent. The abandonment has been extremely high for individual years, as in 1917, 1918, and 1923 when it was 92, 90, and 80 per cent, respectively. During the twelve-year period 1912–1923 the abandonment of seeded acreage has been 37.1 per cent. The yield of wheat in this county during the last twelve years has averaged 7.2 bushels per seeded acre. It is true that comparatively high yields are not infrequently obtained on these semiarid lands, and in such years the profits in wheat growing are good. On the other hand, successive years of crop failure often occur and unless a reserve of capital has been provided the farmer finds it a difficult problem to tide himself over such periods.

In McPherson County, situated in the subhumid wheat region of Kansas, the abandoned wheat acreage since 1912 has averaged 9.4 per cent. The acreage of wheat abandoned in Ford County has been nearly six times that abandoned in McPherson. The average yield of wheat in McPherson has been 13.1 bushels, or almost twice as great as that for the semiarid county. Under such conditions production costs per bushel in Ford County have been very much higher than in McPherson. The physical requirements, such as seed and man and horse labor prior to harvest, remain fairly constant, and in high-risk areas the larger amount of abandoned acreage carries with it a heavy expenditure for these items. Since 1912 man labor prior to harvest has varied from 0.15 to 17.7 hours per bushel. In McPherson County this variation has been from 0.20 to 1.01 hours per bushel. For seven

ACREAGE OF WHEAT HARVESTED, ACREAGE ABANDONED, AND YIELD PER PLANTED ACRE IN SEMIARID AND SUBHUMID COUNTIES OF KANSAS, 1912–1923.

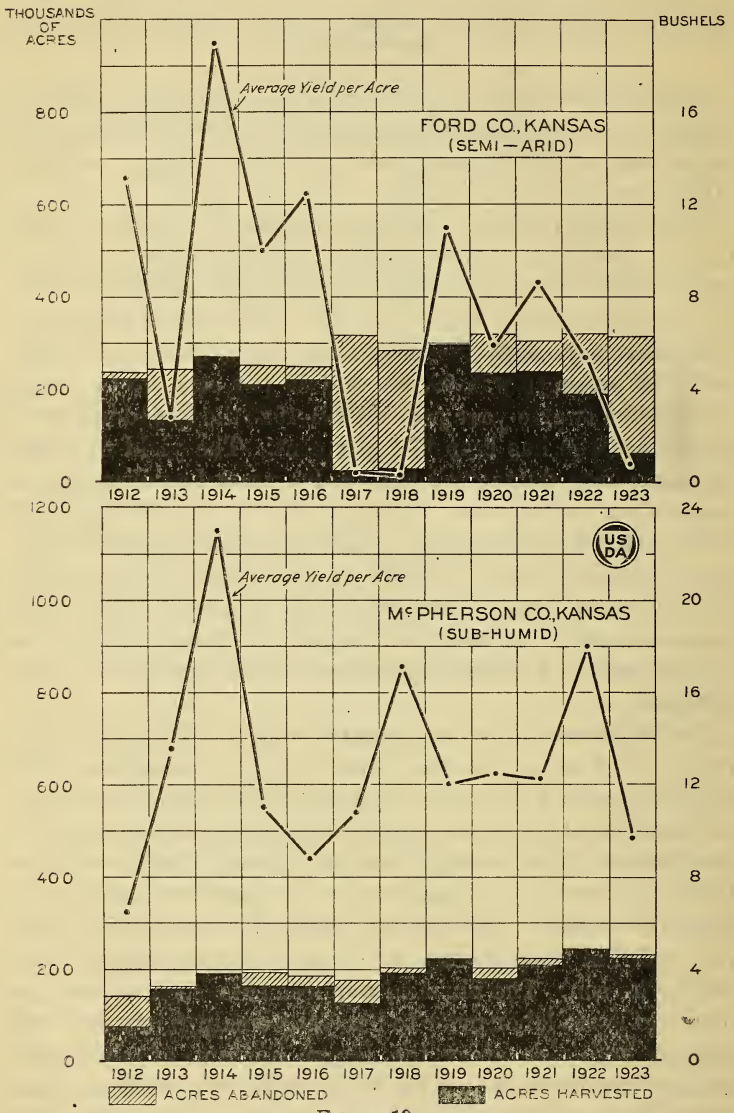


FIGURE 19.

of the twelve years more man labor was required to produce a bushel of wheat in Ford County than in McPherson; in four of the years the man labor per bushel was from four to sixty times greater. Similar ranges existed with respect to the amount of horse labor and seed wheat per bushel.

In a comparison of the relative profitableness of wheat production in these subhumid and semiarid counties, the returns per farm should be considered. By the use of large machinery and extensive methods of cultivation the wheat farmer in the semiarid section operates on the average a considerably larger wheat acreage than the farmer in the subhumid region. According to a study made in 1919 the seeded wheat acreage per farm was 318 acres for Ford County as compared with 143 acres for McPherson. On the basis of these acreages the total wheat production per farm in Ford County has in some years been considerably larger than in McPherson. The average production per farm during a period of ten years, however, has been nearly the same for both counties, and in view of the higher average production costs per bushel in the semiarid county it appears that with present methods the dry-land wheat farmer, at least in some sections, competes at a disadvantage with the wheat farmer in the more humid regions of the country.

COST OF PRODUCING WHEAT IN 1922.

In 1922 the average cost of producing wheat as reported on 2,417 farms in the United States was $1.23 per bushel. The cost of production showed considerable variation as between geographical divisions. The net cost, including land rent, varied from an average of $0.98 per bushel in the spring wheat States of Minnesota, North and South Dakota, and Montana to an average of $1.38 for the States of New York, Pennsylvania, Maryland, Virginia, and West Virginia.

In all of these regions many farmers produced wheat at a loss. It should be remembered, however, that this does not represent an actual cash loss, since a substantial part of the total cost of production does not involve a cash outlay. In cost accounting, costs include charges for the labor of the farmer and his family and for the use of land, and if the price received for wheat is sufficient to cover these costs the farmer receives going wages for his time and interest on capital invested.

The cost of producing wheat varies widely between individuals as between regions. The average cost for the total production, as shown by some investigations, covers the cost of a little more than half of the crop, and a wheat price which only equals this cost will not permanently maintain the industry. To place wheat growing on a stable basis, the price for wheat must be sufficiently high to yield satisfactory returns on the bulk of the production. This price wheat farmers have not received during the last several years.

COSTS AND OTHER FACTORS IN THE MARKETING OF WHEAT.

The spread between the price paid to the producer of wheat and the price paid by the consumer of bread has widened very materially since 1913.

The retail price of a 16-ounce loaf of bread in Washington, D. C., has increased from 5.45 cents in September, 1913, to 9 cents in September, 1923. This advance in bread prices has not benefited the farmer. The portion received in 1913 by the wheat grower for the wheat equivalent of flour used in baking the Washington loaf was about one-fifth of the retail price of bread; in 1923 it amounts to less than one-sixth. While the wheat grower's portion of the retail price of bread has increased during this period less than one-third of a cent, the margins above have increased a total of $3\frac{1}{4}$ cents.

The margins between the mill and the retailer are, therefore, of most interest to the consumer, but the margins between the farm and the terminal market are of special concern to the farmer. According to the best available evidence the margins for the services of local and terminal handling agencies as well as those of transportation agencies bear down heavily upon the wheat grower.

The Department of Agriculture has made an analysis of the operations during 1921–22 of 40 country elevators in north central Kansas. The gross margin of these elevators ranged as high as 9.6 cents per bushel and averaged a little better than 4 per cent of the terminal selling price. The transportation costs to Kansas City averaged about $12\frac{1}{2}$ cents per bushel or a trifle over 10 per cent of the terminal price.

The operating cost of these 40 Kansas elevators varied from 1.9 cents to 7.4 cents per bushel. This wide variation

DISTRIBUTION OF THE RETAIL PRICE OF A 1-POUND LOAF OF BREAD IN WASHINGTON, D. C.

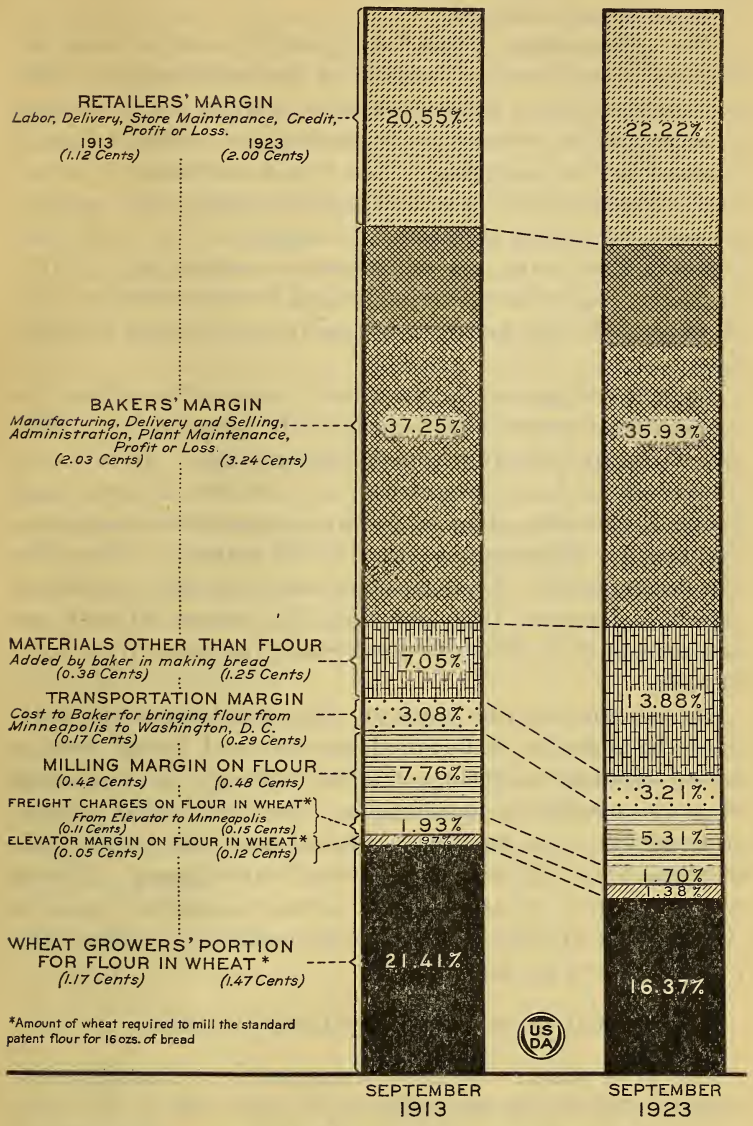


FIGURE 20.—Based on bread formulas for the years 1913 and 1923.

in operating expense is largely due to the variation in the volume of grain handled by the several elevators. The tendency for costs to decline with increase in volume of grain handled is quite marked.

The information at hand suggests the need of reducing both local and terminal margins in the marketing of wheat. A reduction of the country elevator margin can be effected in considerable measure by increasing the volume of grain handled by each elevator. This would necessitate a reduction in the number of elevators at points where there are two or more competing elevators. It should not be overlooked, however, that in the case of privately operated elevators the increased volume thus obtained might to some extent at least be offset by lower prices resulting from decreased competition.

Such investigations as have been made indicate that the cooperative farmers' elevator efficiently operated is an effective factor in reducing local buying margins. It is not so important to have competition in the case of patronage dividend elevators, since all profits over and above operating expenses are ultimately returned to the patrons. Since 1904 the organization of cooperative elevators has proceeded rapidly. Between 1914 and 1921 the number of such organizations in 12 North Central States increased from 1,942 to 4,442.

During the last two years an effort has been made to reduce the margins at terminal markets and bring about a better seasonal marketing of wheat through the operations of grain marketing associations. Fourteen State associations of this kind have been formed and last August nine of them were affiliated in a national sales agency. Owing to their recent organization it is not possible to measure the influence of these associations on marketing margins and prices received by farmers.

QUALITY OF WHEAT IN RELATION TO PRICE.

The price which wheat will command is to a considerable extent influenced by its quality and grade. It is, of course, a well known fact that the lower grades, especially of certain classes of wheat, sell normally at a material discount under the better grades. Quality and grade, moreover, are

determined to a considerable extent by weather conditions over which the farmer has no control. Yet, on the other hand, much may be done by the farmer himself to improve the grade of his wheat and better the price he receives.

In the northwest spring wheat region heavy and unnecessary losses are sustained by wheat farmers in growing and putting on the market wheat containing a large amount of foreign material which can be removed. According to the records of the Minnesota State Grain Inspection Department dockage has gradually increased from 1.9 per cent of all wheat shipped to Minnesota markets in 1902 to 4.2 per cent in 1922. During the twenty-one years covered in this period it is estimated that almost 110,000,000 bushels of dockage were shipped to these markets. If shipped separately to market, this dockage, it is estimated, would have required over 84,000 freight cars for its transportation. Farmers of the Northwest shipped to Minnesota markets in the crop year of 1922 alone over 7,500,000 bushels of dockage, using for this purpose about 5,800 cars. Had this equipment been available for the shipment of clean wheat, the car shortage in the Northwest in the crop movement season of 1922–23 would no doubt have been less serious. It should also be observed that market receipts do not fully measure the amount of dockage since a part of it is removed at the farm and at local elevators.

Spring wheat farmers are taking heavy losses on their dockage in more ways than one. Weeds are reducing wheat yields and some lands have become so foul that they are no longer profitable for wheat production. Harvesting and threshing weeds with the wheat adds materially to the cost of wheat production. At a threshing rate of 7 cents per bushel, it is estimated that farmers in Minnesota, North Dakota, South Dakota, and Montana paid over $675,000 to thresh the dockage in their 1922 wheat crop.

A still more important item of loss is the cost of freighting dockage to market. The average dockage assessed per car in 1922 by the Minnesota State Grain Inspection Department was 54 bushels. The freight charges on this dockage between Larimore, N. Dak., and Minneapolis amounted to $5.67 per car. If, for illustration, the Larimore-Minneapolis freight rate be taken as an average rate on wheat shipped to Minnesota markets and be applied to the total dockage

assessed in 1922 it appears that the enormous sum of almost $800,000 was paid to the transportation companies to haul the dockage of that season to these markets. An effective way, in short, to reduce transportation costs is to remove the foreign material before shipment is made.

Losses resulting from foreign material in wheat may be materially reduced by better crop rotations and cultural methods as well as by cleaning both seed and market wheat. The one-crop system in the Northwest has resulted in weed-infested lands, dirty wheat, and reduced yields. The practice of sowing seed wheat containing a high percentage of weed seed has been altogether too common. A survey made in Minnesota and the Dakotas in 1921 disclosed the fact that 96 per cent of the farms visited were drilling with the wheat from 1,000 to 500,000 foreign seeds per acre. The employment of cleaning devices which have been perfected for farm, threshing machine, and elevator will materially reduce this financial leakage in the farm business.

Throughout the Pacific Northwest wheat regions smut is an important factor in reducing the quality of wheat; in the eastern States garlic causes material damage. Losses from these sources may be materially reduced by cleaning the wheat both for seed and for market. In the Southwest improper farm storage of wheat is responsible for much of the loss in quality. Where the combine-harvester is used, wheat containing too much moisture is often stored under improper conditions with resulting deterioration. This loss may be prevented by proper ventilation of bins.

The importance of producing and putting on the market the best possible grade of wheat can not be overemphasized. In foreign markets our lower grades of wheat meet in competition the best wheats of other lands and sell at a discount. On the other hand, the demand in our domestic markets is for the wheats which have the highest milling value. The poorer grades usually sell, therefore, at substantial discounts, particularly when the percentage of such grades is relatively large.

Terminal prices reflect quite accurately the variations in the quality of wheat; local prices frequently do not. Farmers must know what factors determine the grade of their wheat in order to bargain for the best possible price. In

recent years wheats of high gluten content and quality have commanded special premiums. On the Kansas City market car lots of hard winter wheat, grading No. 2, 3, or 4, but of high gluten content or quality, often sell above No. 1 for the same day. Even car lots grading No. 5 occasionally bring the highest price for the subclass. For a recent day on that market when No. 1 Hard Winter was quoted at $1.18, the highest quotation for No. 4 was $1.16 and for No. 5 $1.19. The producer as a rule does not know the gluten content of his wheat, and may, hence, be at considerable disadvantage in making his sale to the local buyer. Special efforts should be made by producers to acquaint themselves better with the market value of their wheat.

FEEDING LOW-PRICED WHEAT TO LIVESTOCK.

At prevailing prices some wheat can be profitably substituted for corn in the feeding of livestock in many sections of the country. The relative prices at which wheat economically may displace corn in feeding is shown in the following table:

Corn prices per bushel and equivalent wheat prices based on their relative feeding values.[1]

[Experimental data, Bureau of Animal Industry.]

Corn.	Wheat.			Corn.	Wheat.		
	Poultry and sheep.	Hogs.	Beef cattle.		Poultry and sheep.	Hogs.	Beef cattle.
Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
50	54	56	62	80	86	90	99
55	59	62	68	85	91	96	105
60	64	67	74	90	96	101	111
65	70	73	80	95	102	107	117
70	75	79	86	100	107	112	123
75	80	84	92				

[1] The feeding value of a pound of wheat in pounds of corn is 1 for poultry and sheep, 1.05 for hogs, and 1.15 for beef cattle.

According to these ratios, when corn is 80 cents a bushel on the farm, for example, 86-cent wheat can be fed profitably to all animals, including poultry; 90-cent wheat can be fed to cattle and hogs but not to sheep and poultry; while 99-cent wheat is profitable for beef cattle only. These ratios do not take into account the cost of grinding the wheat, a necessary measure in feeding it.

The corn situation is at present very unusual. The visible supply of corn in the United States on November 3 was 809,000 bushels compared with 8,806,000 last year and 18,935,000 in 1921. The November 1 visible supply averaged 3,763,000 bushels in the period 1914–1920 and 3,352,000 during the pre-war years 1909–1913. At no time since 1900 has the visible supply of corn for November been so low as it is at present. This situation has placed the prices of old corn this fall on very nearly the same level with wheat prices. For the month of October the spread between the average farm price of No. 2 corn and No. 4 wheat at representative shipping points in Kansas, Nebraska, Missouri, Iowa, and Illinois ranged from 0 to 8 cents and between No. 2 corn and No. 2 wheat from 3 to 12 cents. At these prices No. 4 and lower grades of wheat can be profitably substituted for corn in the feeding of hogs and cattle and even No. 2 wheat can be fed to beef cattle with profit. As noted above, however, wheat should be ground or crushed before feeding, and should also be supplemented with other feeds.

WHEAT PRODUCTION AND AGRICULTURAL READJUSTMENTS IN THE PRINCIPAL WHEAT REGIONS.

Under the stimulus of war prices and in response to the demand for large food supplies, the production of wheat was increased enormously during the years of the war. The initial rise in price following the declaration of war in 1914 encouraged the expansion of our wheat area. This large acreage, together with a favorable season, caused the wheat crop of 1915 to be the largest we ever harvested. Other countries also secured large crops that season, and as a result the price of wheat dropped to practically the pre-war level and remained low through the crop year 1915–16. A marked decline in wheat plantings followed, and with the heavy abandonment in 1917 the acreage harvested that year fell to a point slightly below the pre-war average.

With the bottling up of the Russian surplus the Allies had to depend upon overseas countries, especially North America, for their wheat. The price of wheat advanced sharply in the fall of 1916 and continued to rise through

FARM PRICE OF WHEAT, RYE, FLAX, POTATOES, BUTTER, AND EGGS, 1914–1923.

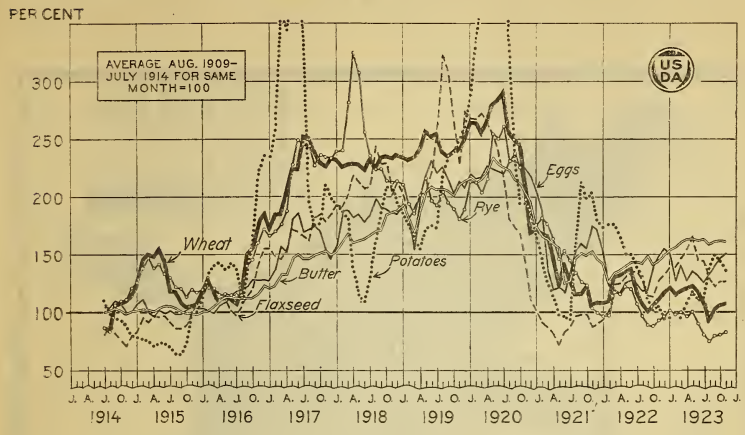


FIGURE 21.

the forepart of 1917. After the United States entered the war, measures were taken to regulate the price of wheat, and minimum prices were fixed for the 1917, 1918, and 1919 crops. Under continuous appeals for production of food, the production of wheat rose from an average of 690,000,000 bushels in the period 1909–1913 to 968,000,000 in 1919, an increase of 40 per cent, and the wheat area expanded from an average of 47,000,000 acres to 75,000,000 in 1919.

FARM PRICES OF WHEAT, CORN, OATS, BARLEY, CATTLE, SHEEP, AND HOGS, 1914–1923.

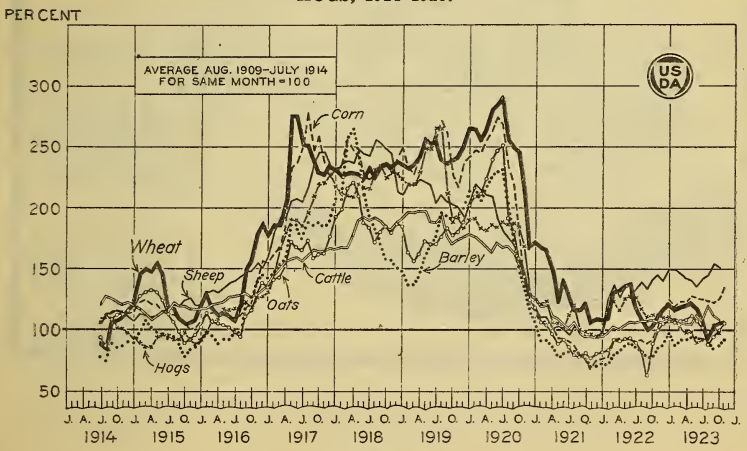
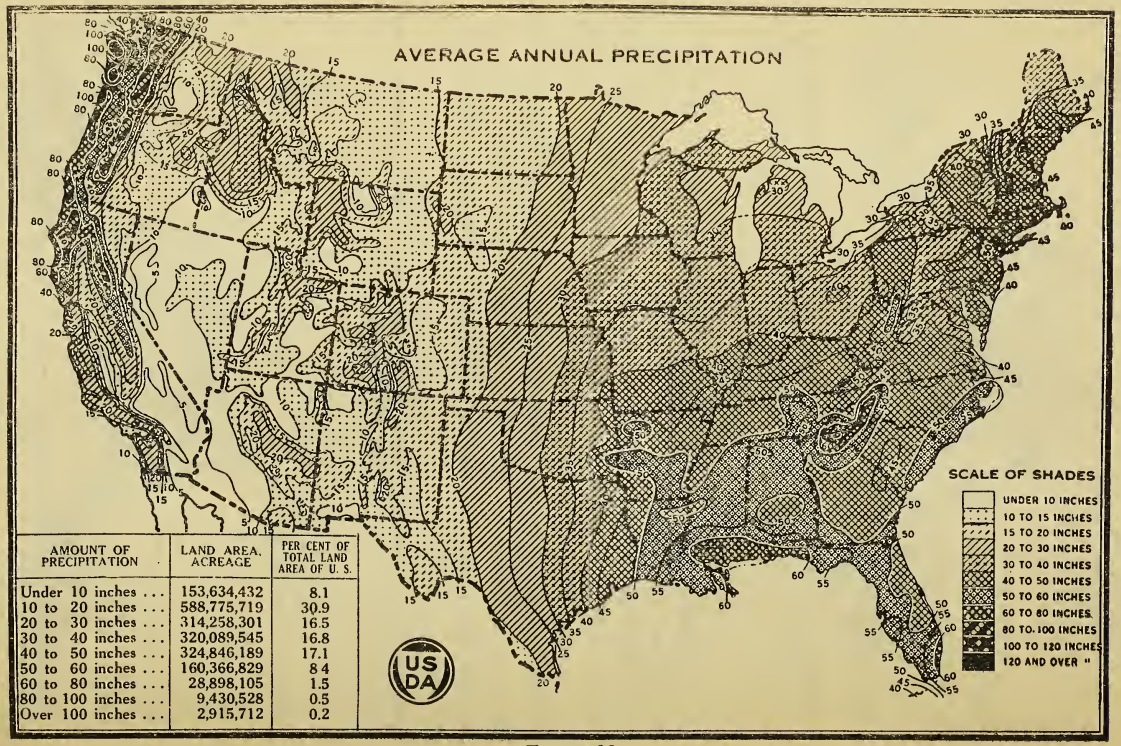


FIGURE 22.



AMOUNT OF PRECIPITATION	LAND AREA, ACREAGE	PER CENT OF TOTAL LAND AREA OF U. S.
Under 10 inches ...	153,634,432	8.1
10 to 20 inches ...	588,775,719	30.9
20 to 30 inches ...	314,258,301	16.5
30 to 40 inches ...	320,089,545	16.8
40 to 50 inches ...	324,846,189	17.1
50 to 60 inches ...	160,366,829	8 4
60 to 80 inches ...	28,898,105	1.5
80 to 100 inches ...	9,430,528	0.5
Over 100 inches ...	2,915,712	0.2

FIGURE 23.

In order to provide land for wheat, rye, oats, tame hay, and some other crops, of which there was an increase, the corn acreage was materially reduced, and a large amount of pasture and meadow land in the older regions and wild grass land in the newly settled regions was drawn into cultivation.

When general deflation of prices began in the summer of 1920, wheat prices broke sharply and have continued to decline into the present season. As a result substantial reductions have taken place in both acreage and production

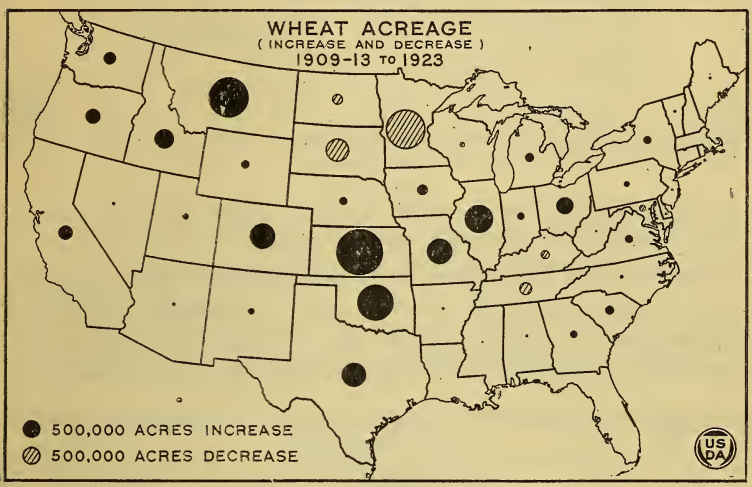


FIGURE 24.

of wheat. Nevertheless, the crop for 1923 is 781,000,000 bushels or 13 per cent greater than the average before the war, and the acreage is about 24 per cent larger. The corn acreage which was replaced by wheat has now recovered most of this loss, but is still slightly under the pre-war average. While there has been some reduction in cultivated crops, the total crop area of the country is still between 30,000,000 and 40,000,000 acres larger than before the war.

The States included in the Corn Belt, western winter wheat region, spring wheat region and Pacific Northwest, contain over 85 per cent of the 1923 wheat acreage and are, therefore, of special importance. Winter wheat accounts for the major portion of our expansion in production. Of

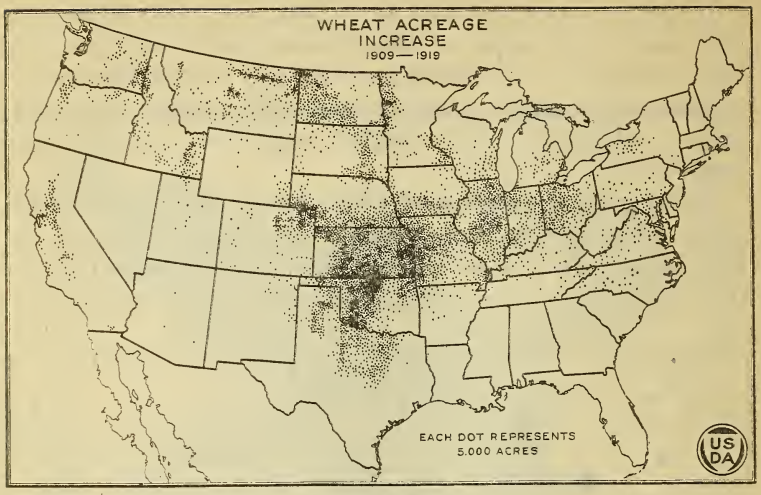


FIGURE 25.

the 28,500,000 acres increase in total wheat area during the war about 22,000,000 were winter wheat.

In the Corn Belt wheat increased 7,000,000 acres and displaced about 3,000,000 acres of corn. Although substantial adjustments in crop acreages have been made since 1919, the wheat area is still almost 2,900,000 acres over the average

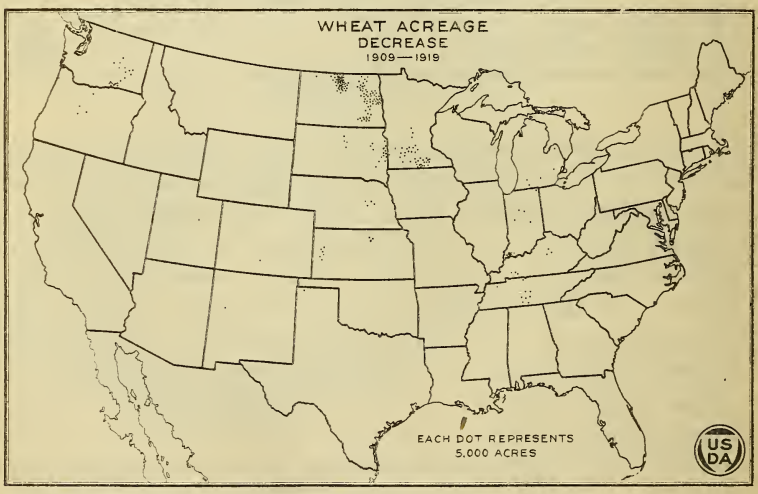


FIGURE 26.

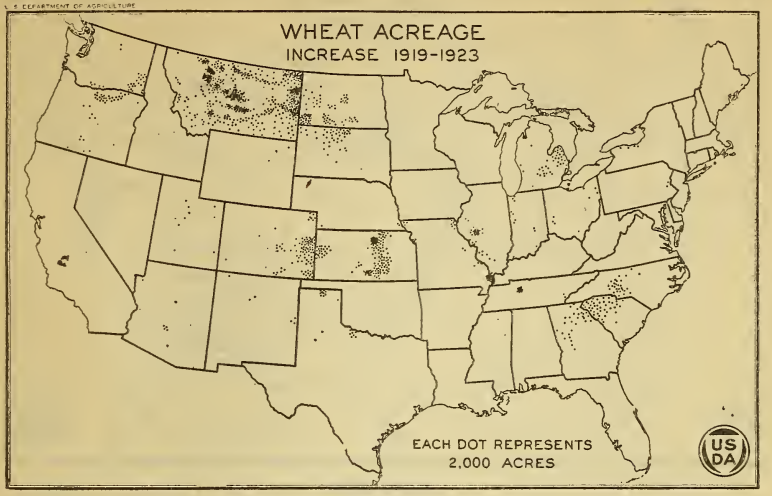


FIGURE 27.

before the war and the corn acreage is about 1,722,000 acres below. Some lands in the Corn Belt have also been returned to pasture and meadow.

The largest addition to the winter wheat area was made in the Great Plains States of Nebraska, Kansas, Colorado,

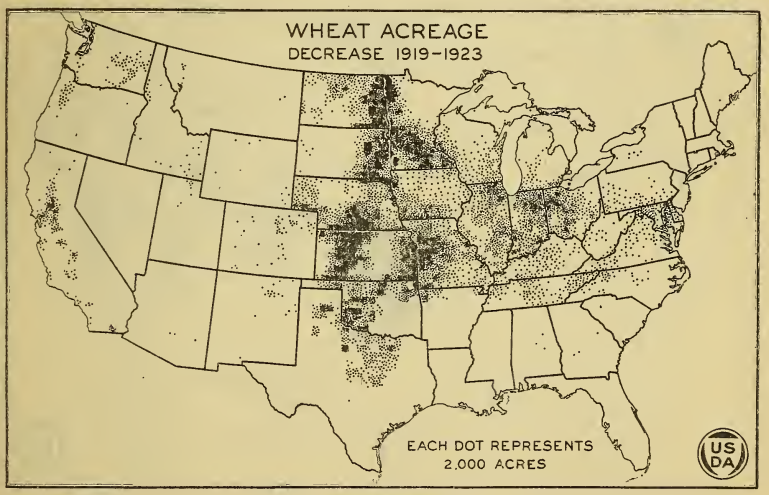


FIGURE 28.

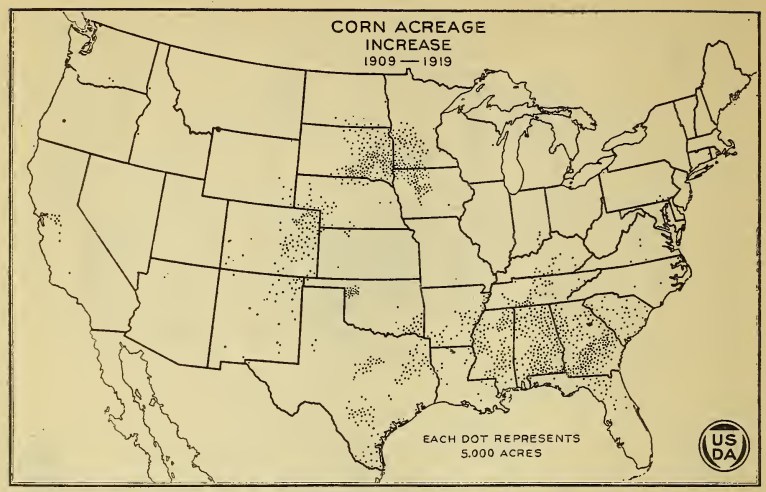


FIGURE 29.

Oklahoma, and Texas. By 1919 the wheat acreage in these States had been expanded by over 13,450,000 acres. Corn was reduced 8,275,000 acres and better than 11,000,000 acres of meadow and wild pasture land were plowed up and planted to crops. Much of the new land sown to wheat was located in the semiarid part of the region where the har-

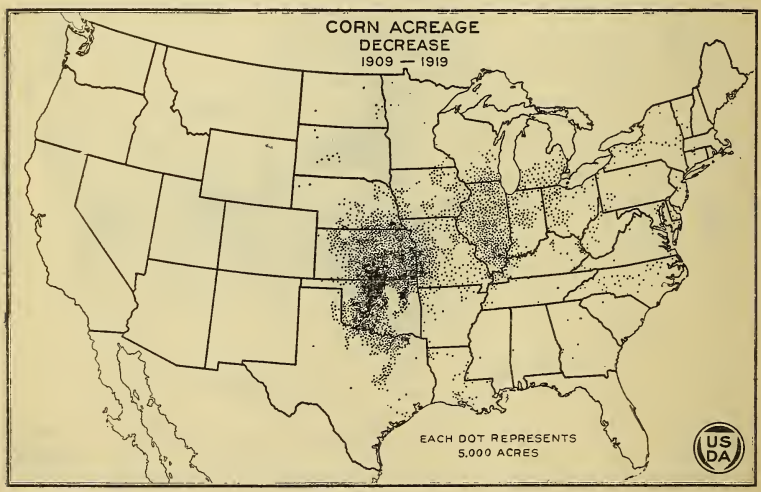


FIGURE 30.

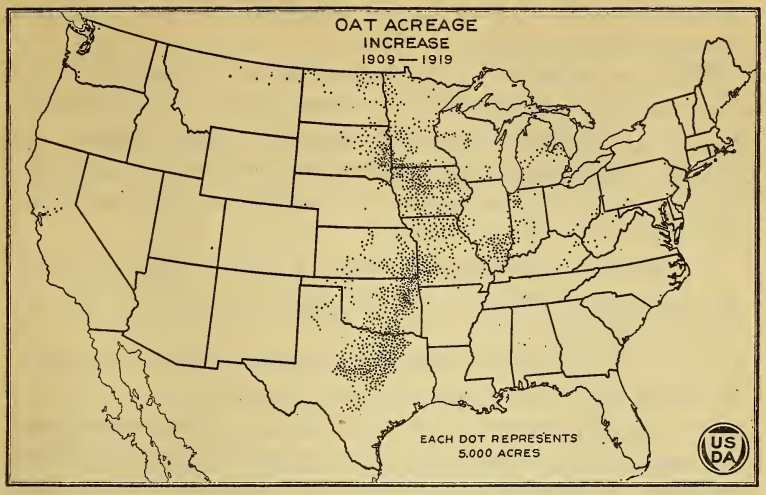


FIGURE 31.

vested wheat acreage between 1909 and 1919 more than trebled. Crop acreages in the region as a whole are still considerably out of line with their pre-war relationships. The wheat area is 7,240,000 acres above and that of corn is about 4,600,000 below the pre-war average. No reduction appears to have been made in the total area of cultivated land which

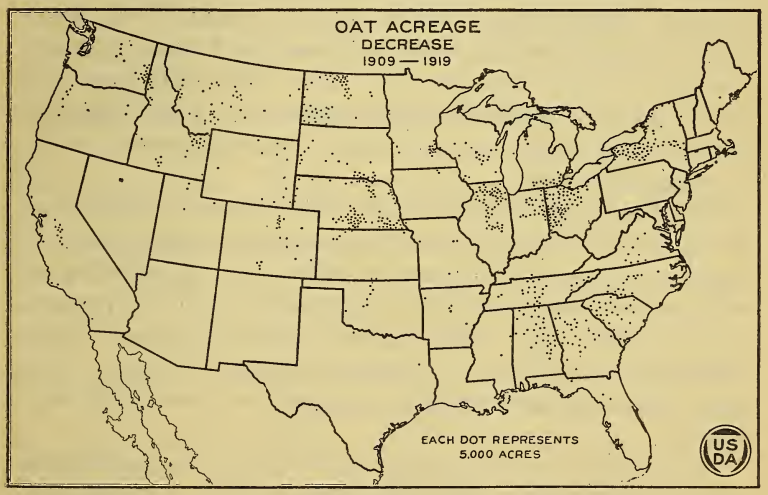


FIGURE 32.

at the present time is almost 12,500,000 acres over the average before the war.

The area suited to spring wheat in the United States is more restricted than that for winter wheat and the expansion of the former has been, therefore, much smaller in amount. Less than 6,500,000 acres were added to the spring wheat area during the war and all of this increase has since been lost.

The States of Minnesota, North Dakota, South Dakota, and Montana account for about 4,150,000 acres of the increase in spring wheat during the war. These States as a group at the same time materially enlarged their rye, corn, oats, and tame hay production and made important reductions only in the case of barley and flax. This crop expansion was brought about by plowing up some pastures and meadows in Minnesota and North and South Dakota, but more especially wild pasture lands in the semiarid sections of the western part of the Dakotas and in Montana. The region as a whole has reduced its 1923 wheat area to 700,000 acres less than the average before the war. This reduction has taken place, however, in the eastern part of the Dakotas and in Minnesota where farmers have turned to livestock and dairying as important lines of production. Although there has been considerable abandonment of lands during the past several years in the semiarid sections of North Dakota, South Dakota, and Montana, the harvested wheat acreage in these areas is this season about 176 per cent greater than in 1909. For the region as a whole the area in cultivated crops has continued to expand since the beginning of the war.

The wheat area in the Pacific Northwest was enlarged to the extent of 1,250,000 acres, in considerable measure by decreasing the amount of summer fallow and by plowing up wild pasture lands, and only slightly through the replacement of other crops. Here again a substantial part of the additional acreage sown to wheat was semiarid land. Only slight reductions in the wheat acreage have been made since 1919.

Three aspects of our acreage shifts during the last decade may be emphasized. The area of land used for cultivated crops has been greatly extended, and large amounts of

meadow and pasture have been brought into cultivation. The wheat area was very greatly expanded, displacing corn more than any other crop, and while considerable readjustment has been made, pre-war crop relationships have not been reestablished. Finally, within the semiarid regions of the West where crop hazards are high large bodies of wild pasture land have been broken and planted to wheat. In the one-crop system of these semiarid regions wheat holds a dominant place and has stubbornly resisted reduction.

AGRICULTURAL READJUSTMENTS IN THE PRINCIPAL WHEAT REGIONS.

The increasing foreign competition in wheat production points to a relatively low level of prices for wheat and to the advisability of materially reducing the acreage. Our wheat production should be placed gradually on a domestic basis and then should keep pace with our growth in population and domestic demand. In those regions where wheat displaced other crops in response to war-time prices, the acreage of wheat should be reduced as fast as profitable alternatives can be found.

Most crops which can be substituted for wheat are feed crops and any marked increase in their production must be accompanied by more livestock. The prices of cattle and hogs are low, while those for dairy and poultry products, sheep and wool are much better. Adjustments in crop acreages must take into account the relative price trends of farm products.

Conditions vary widely between farmers as between regions, and what may apply to one individual may not apply to another. Wheat may have an important place in the rotation of some farms and further reduction may not be practicable, and the economical use of labor and equipment may make it desirable to maintain a relatively large acreage of wheat. Many wheat farmers, in short, are restricted in their choice of alternative crops, and, furthermore, are not financially able to change materially their type of farming. Under such conditions adjustments must be largely in the direction of economy and more efficient production.

Wherever possible, lands which give relatively low returns in cultivated crops should be seeded to meadow or be

allowed to revert to pasture. Cash outlays in the production of crops can often be reduced. A part of the hired labor on some farms may be eliminated and more of the supplies for the household as well as feed for livestock may

INCREASE AND DECREASE IN WHEAT PRODUCTION IN THE UNITED STATES AND PRINCIPAL WHEAT PRODUCING REGIONS, 1909–1913—1923.

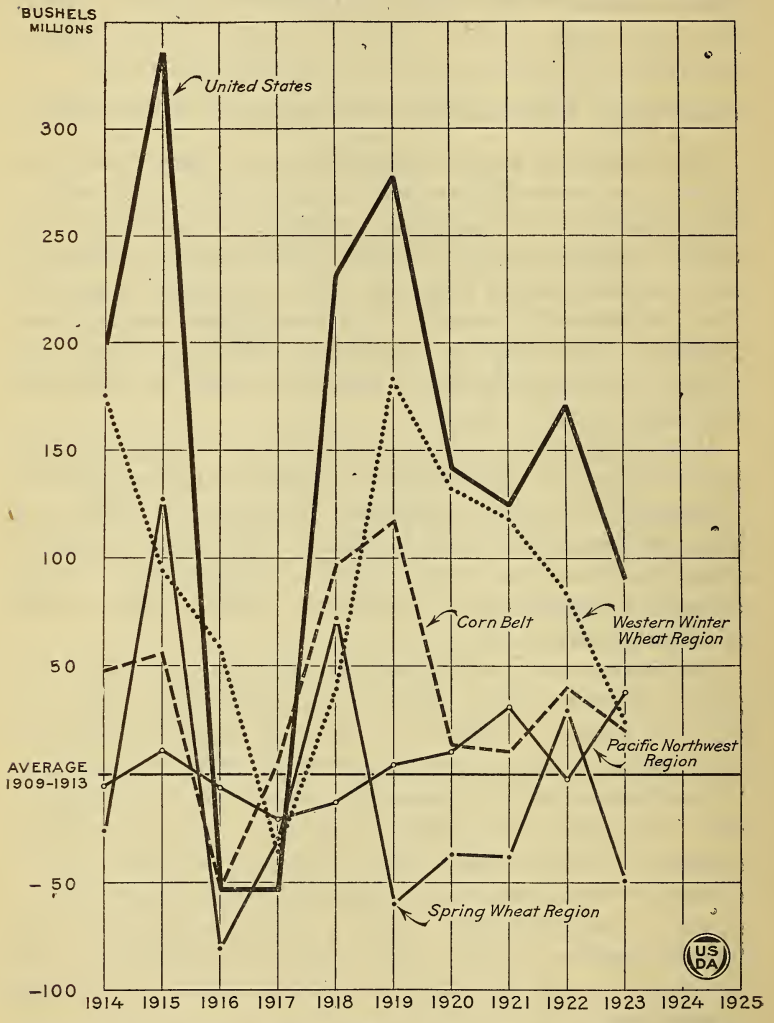


FIGURE 33.—Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri), western winter wheat region (Kansas, Nebraska, Oklahoma, Texas, Colorado), spring wheat region (Minnesota, North Dakota, South Dakota, Montana), Pacific Northwest region (Idaho, Washington, Oregon).

be produced on the farm. In some sections it even may be possible to supplement the farm income from sources outside of the farm.

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN UNITED STATES, 1909–1913—1923.

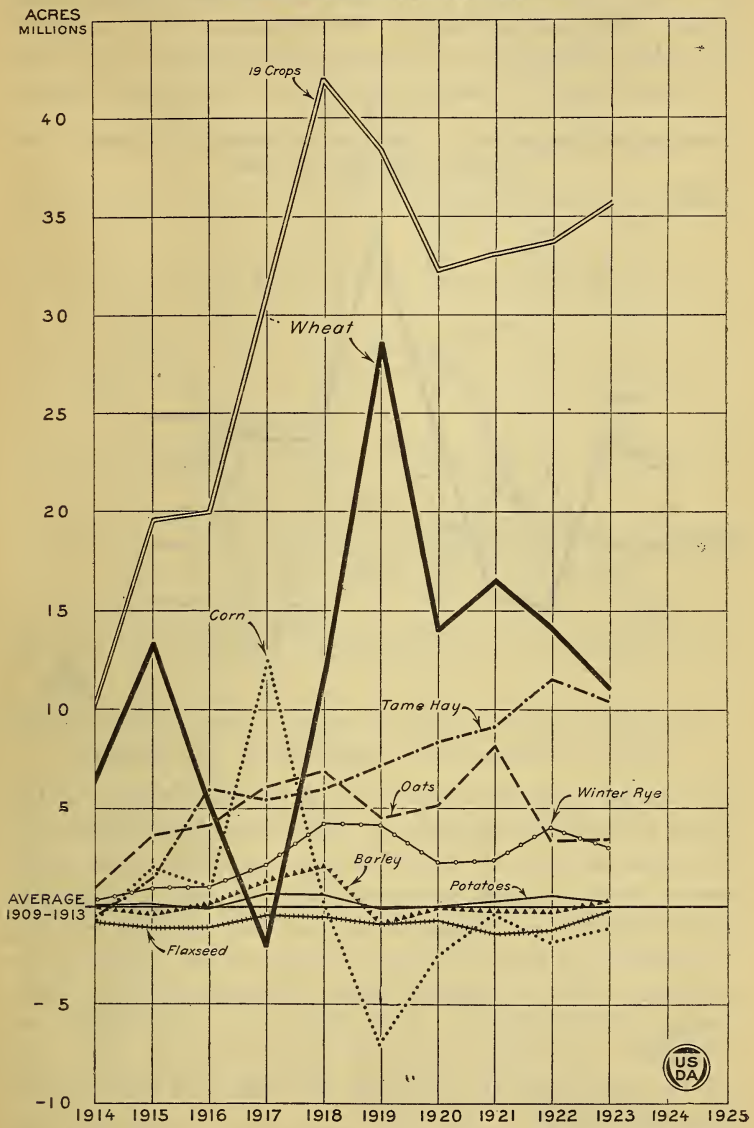


FIGURE 34.—The 19 crops comprise about 95 per cent of total crop acreage in the United States.

Farmers in the Corn Belt and other eastern States have made substantial progress in readjusting their crops. The wheat area, however, is still in excess of the pre-war average, while that of corn is considerably below. The value of corn per acre in the region is usually greater than that of small grains which are included in the cropping system to permit the fuller utilization of farm labor and equipment and serve as nurse crops for pasture and hay. The spread between

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE CORN BELT, 1909–1913—1923.

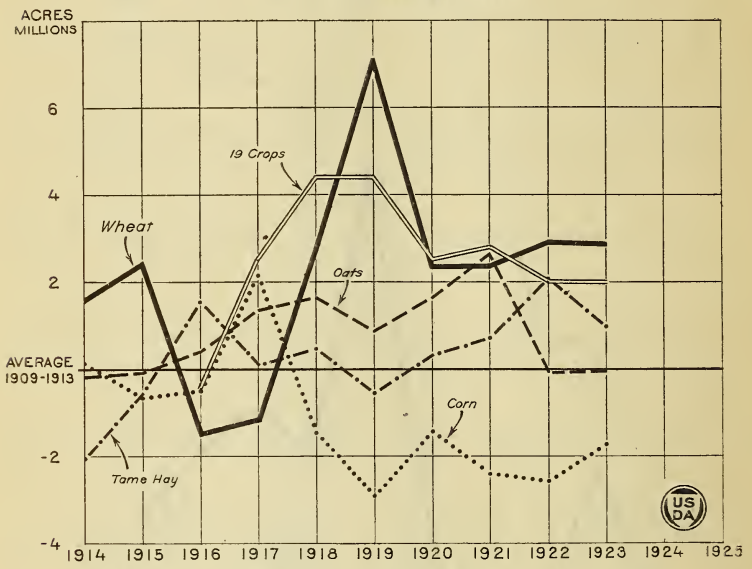


FIGURE 35.—Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri).

the average value of corn per acre in Ohio and that of either wheat or oats was greater in 1922 than it had been since 1913, and an acre of corn this year promises to be worth nearly twice as much as either wheat or oats. At present prices, therefore, it appears that Corn Belt farmers will find it profitable to keep their corn acreage at the highest point consistent with a balanced labor program and the maintenance of soil fertility. It should not be overlooked, however, that the present relatively high prices for corn may not be maintained if the prices of cattle and hogs remain at present levels.

Conditions in the eastern humid parts of Nebraska and Kansas are very similar to those in the corn States to the east. A subhumid belt in which the rainfall is lower than in

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE WESTERN WINTER WHEAT REGION, 1909–1913—1923.

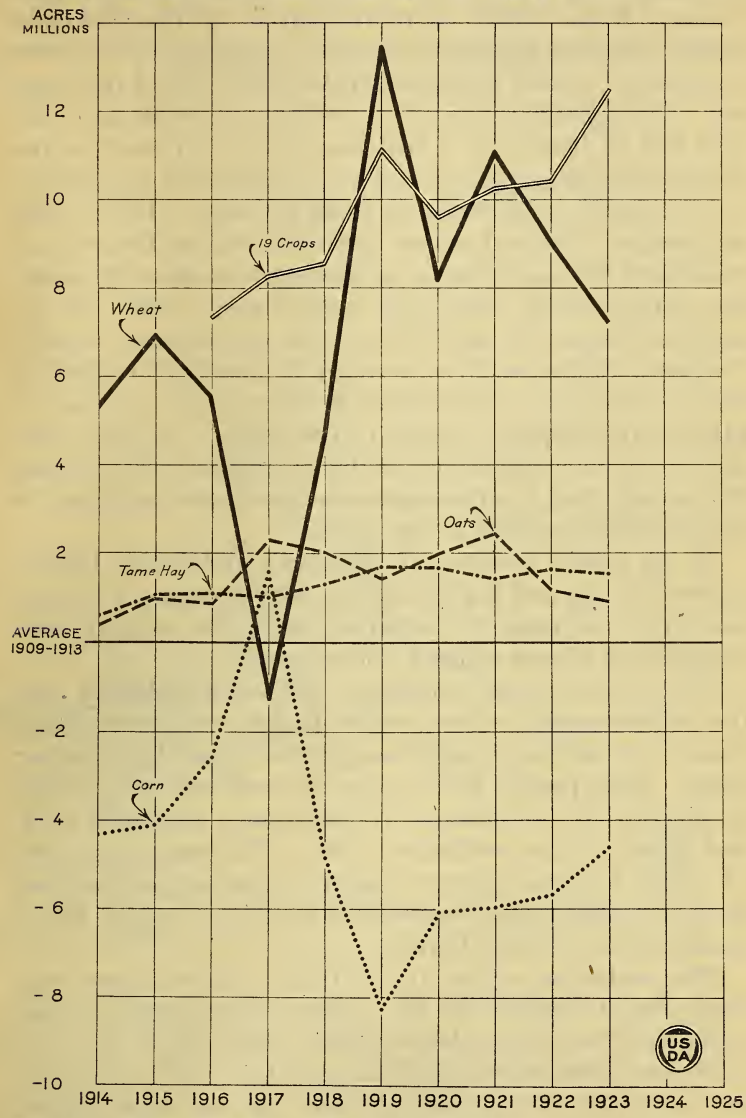


FIGURE 36.—Western winter wheat region (Kansas, Nebraska, Oklahoma, Texas, Colorado.)

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the eastern humid region cuts across the central portion of the western winter wheat States. Wheat yields in this belt are more dependable than those of corn, and wheat has occupied, therefore, a more important place in the system of farming. The value of an acre of wheat in McPherson County, Kans., which is representative of the subhumid region, has been higher than that of corn since 1913, and in a majority of years has exceeded also that of oats, barley, and rye. The spread between the acre value of wheat and corn was less in 1922 than it had been since 1917, and on the basis of average yields, present prices place corn very nearly on an equality with wheat in value per acre. On the basis of average yields and present prices the value of an acre of wheat less the cash costs of producing it is about $3 under the corresponding value of an acre of corn. Since the demand of wheat and corn for labor do not seriously conflict, it appears that in so far as corn can be profitably utilized as feed or can supply a local demand it deserves a more important place in the cropping system of the region. As grain sorghums are more dependable in dry years than corn, farmers will usually find it advantageous to grow some sorghums to assure themselves feed in dry years.

In the humid portions of Minnesota and South Dakota where dairying and hog production have become the leading enterprises on most of the farms, wheat has already been displaced to a large extent by other crops.

Wheat has been the principal crop in the subhumid portion of the spring wheat region largely because the acre value of wheat has usually been greater than that of other crops. With present prices, however, more attention should be given to the production of feed crops, especially corn, and likewise to the production of flax. The one-crop system of wheat farming, hitherto largely followed, has resulted in weed-infested land, reduced soil fertility and in heavy losses in years of crop failure.

The production of flax in the United States is now confined almost entirely to the spring wheat region. Flax production has been below domestic consumption in every year since 1909, and while the acreage this year is the highest since 1913, the indications are that the consumption during the present year (July 1, 1923 to July 1, 1924) will

be at least double this year's domestic production. The present tariff of 40 cents per bushel has resulted in an increase in price to growers in the United States, and so long as production is below consumption and the tariff remains in effect flax prices will probably be attractive.

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE SPRING WHEAT REGION, 1909–1913—1923.

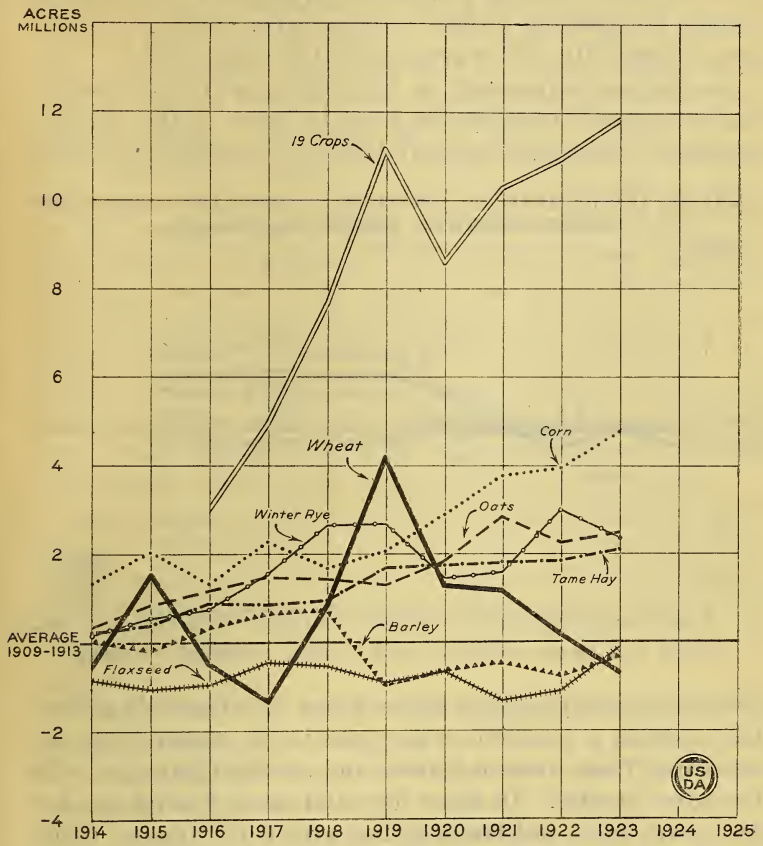

FIGURE 37.—Spring wheat region (Minnesota, North Dakota, South Dakota, Montana).

The average value per acre of the 1922 flax crop in North Dakota was $9 more than the average value per acre of the wheat crop. This is a greater difference in favor of flax than had existed since 1916. Present indications are that the spread between the value per acre of the two crops this year will be nearly as great as it was last year.

Records from 150 farmers in northeastern Montana show that the average yield of wheat for the ten-year period 1913–1922 was 13 bushels and that of flax 6 bushels per acre. At these yields flax will be more profitable than wheat whenever the price per bushel of flax is more than twice as great as the price of wheat. Flax usually does best as the first crop on newly broken sod, but it probably is advisable to confine the growing of flax to those farms where it can compete successfully with wheat on old but clean land.

In effecting adjustments in the agriculture of the semiarid regions special consideration must be given to the financial situation. Although financial difficulty is widespread among

INCREASE AND DECREASE IN ACREAGES OF IMPORTANT CROPS IN THE PACIFIC NORTHWEST REGION, 1909–1913—1923.

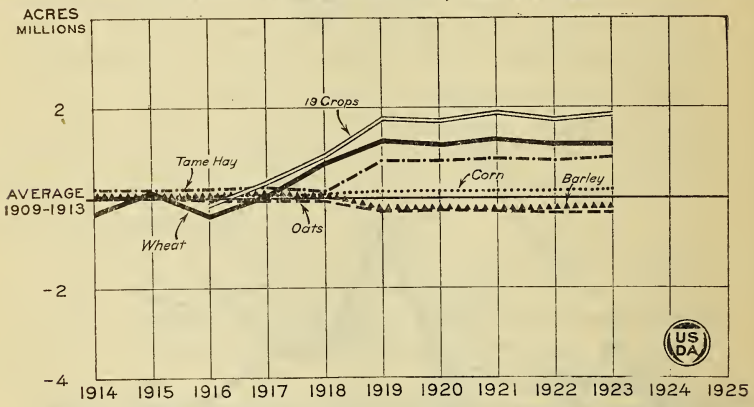

FIGURE 38.—Pacific Northwest region (Idaho, Washington, Oregon).

farmers in many regions where wheat is extensively grown, the situation is no doubt at its worst in the semiarid sections extending from western Kansas and eastern Colorado to the Canadian border. In these dry-land areas during the last few years farm indebtedness has grown in volume; delinquent farm interest and taxes have accumulated; foreclosures and bankruptcies have multiplied; and the capital and credit of farmers have been so depleted that it has been necessary to provide county, State, and Federal funds for seed and feed loans. With the failure of crops year after year business concerns have failed, a large number of banks have closed, and the financial stability of local government units in some cases has been severely tried.

This condition of things is the outcome of several causes, the results of which have been cumulative. The semiarid country of the West was opened to settlement under a land policy which was not suited to the region. As a result a great deal of land which is poorly adapted for crops has been homesteaded and sown to wheat, frequently by settlers who were not equipped to cope with the problems of the region. In some years, when wheat prices were at war levels, crops in many sections failed. On the other hand, production costs remained high and long hauls and high freight rates to market bore down upon the dry-land farmer with special weight. Moreover, during the early years of the war, when crops were good, the high prices of wheat coupled with easy credit led to over-extension on the part of many in the purchase and renting of land and in outlays for more extensive equipment. The one-crop system of wheat farming, however, which has been so largely followed, is one of the most important factors in the situation. The complete failure of the wheat crop has frequently left the farmer without funds for living and other expenses. As one crop failure succeeded another, many farmers increased their wheat acreage in the hope of recouping previous losses and thereby often merely increased their indebtedness.

The situation varies materially within the semiarid wheat regions. Soil and climate are much more favorable to wheat production in some areas than in others, and in every region individual farmers may be found who because of their methods and business ability have met with a fair measure of success.

Fundamental and far-reaching adjustments must be made in the agriculture of this region. Wheat in the past has been the dominant crop and will probably retain an important place in the dry-land farming of the future. It is evident, however, that the one-crop system of wheat farming in general has failed under the methods commonly employed. A safer type of farming must be developed. The land now in cultivation which is not suited to field crops should be allowed to revert to pasture. Some forage crops should be grown on every farm and reserves of feed, livestock, and capital must be carried from one year to another to tide over periods of crop failure. Both livestock and poultry will help stabilize the farm income. A considerable amount of

wild pasture land in some sections is available for grazing purposes and should be utilized in so far as conditions will permit to supplement the farm income. Economical cropping and tillage practices which conserve moisture should be developed and used. Since average yields on dry land are relatively low, the farm business should be organized with a view to utilizing the maximum acreage consistent with good farm methods and the financial ability of the farmer. It is also important that there be developed a system of farming in which the dependence upon high-priced migratory labor is reduced to the minimum.

As a result of foreclosures or abandonment a large number of farms in various parts of the semiarid region are now in the possession of mortgage holders. Some of this land, no doubt, can be profitably cropped if capitalized at reasonable prices and if suitable farm methods are employed. There is much of it, however, which under present price levels will probably not yield satisfactory returns from field crops and should revert to pasture. For the development of a stable agriculture in the semiarid regions it is imperative that a true appraisal be made of the uses to which these lands can be put most profitably.

A change to a more stable form of agriculture in the semiarid regions will be gradual and assistance during the period of transition will be needed. Some farmers are now so deeply involved that further credit extensions will not benefit them. On the other hand there are many dry-land farmers whose loans should be extended under a long-term payment plan at a reasonable rate of interest, and who should also receive such additional credit as may be necessary to effect essential changes in the type and organization of their farming.

SUMMARY AND CONCLUSIONS.

The wheat industry of the United States is in a period of serious depression. A great many farmers have already lost their farms or other property and the financial condition of others is critical. This condition of things has resulted from the decline in wheat prices, the relatively high level maintained in the prices of other commodities and services, and also from the maladjustments which exist in the wheat industry itself.

Present low prices are caused by the large world supply of wheat, for which there is not an effective demand at higher price levels. The total world crop outside of Russia is estimated at 3,400,000,000 bushels, which exceeds the production of last year by 300,000,000 bushels and the pre-war average by 500,000,000, excluding Russia. Both importing and exporting countries whose production fell during the war are resuming rapidly the position they previously held as wheat producers. Moreover, the evidence indicates that competition in wheat production will increase very materially. Russia is gradually restoring her agricul-

PRICES OF WHEAT, FOOD, AND ALL COMMODITIES; EARNINGS OF FACTORY WORKERS; COST OF LIVING; AND FREIGHT RATES, 1913–1923.

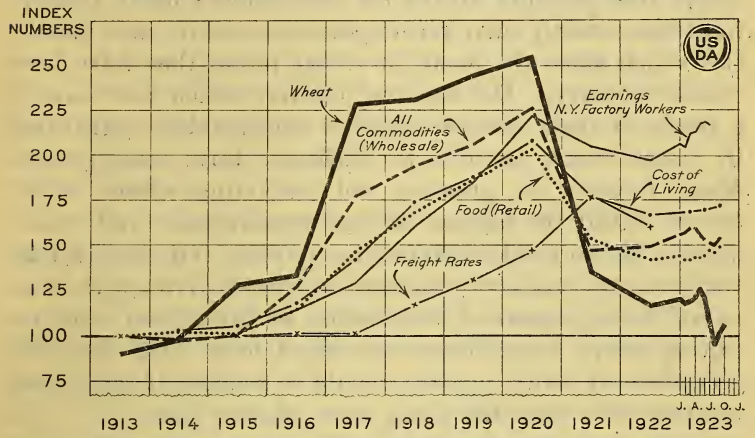

FIGURE 39.

ture and is already exporting some bread grains. Argentina, Australia, and especially Canada are selling abroad large amounts of wheat and will in all probability continue to expand their wheat exports. These countries enjoy material advantages over the United States in the production of wheat. So long as the United States produces a surplus, the prices of American wheat will be determined largely in the markets of the world and American farmers as exporters of wheat must be prepared to meet the keen competition of foreign producers for these markets.

Although wheat prices have dropped to pre-war levels, prices of manufactured commodities and of services remain high. The costs which enter into the production and

marketing of wheat are so high that, at present prices for wheat, the farmer can not continue to pay them and remain in business. Taxes, machinery, wages, freight rates, and prices of food and clothing are out of proportion to the price of wheat and the earnings of the wheat farmer.

A number of factors within the wheat industry itself also have contributed to the present wheat crisis. Lands on which wheat can not under present economic conditions be grown profitably have been brought into cultivation in some regions. This fact coupled with the dependence placed upon wheat as a cash crop accounts for the losses of some farmers. Furthermore, high prices and the appeal for larger food supplies during the war induced many farmers to expand unduly their farm operations and to incur liabilities which since the break in wheat prices they have been unable to carry. The financial distress which has come as a result of these various causes is considerably aggravated by losses which are due to inefficient farm management. Many farmers are growing and marketing wheats which do not fulfill the highest market requirements and consequently fail to yield maximum net returns. On some farms, furthermore, excessive emphasis on wheat carries with it an unsatisfactory seasonal distribution of farm labor with resulting heavy expenditures for hired help. The financial difficulties of many, in short, would be reduced if their farm business were operated along more efficient lines.

It is important to bear in mind that the solution of present agricultural difficulties depends quite as much upon the efforts of farmers themselves as upon any Government action. There are fundamental and far-reaching adjustments in production and marketing which farmers themselves must make as a part of a long-time program. A survey of the situation indicates that well-considered action in a number of directions will bring wheat farmers a substantial measure of relief.

A large number of wheat producers are on the verge of bankruptcy. Many of them are, no doubt, beyond the point where further credit extensions would benefit them. On the other hand, a larger number can and should be saved by the renewal of loans or by additional credit on reasonable terms. Where a large volume of personal credit exists and

the mortgage status of the farm permits, outstanding short-time loans should be funded into long-term mortgage loans at lower rates of interest. In this connection full advantage should be taken of the facilities afforded under the Federal Farm Loan Act. Moreover, the new credit facilities provided in the Federal intermediate credit banks should be utilized to reduce the cost of personal credit to the farmer. In this bankers should lend a willing hand even where such action does not increase their immediate profits. The constructive country banker will readily see that in the long run such action benefits him as well as the farmer.

To meet successfully foreign competition in some markets in which exchange rates and opportunities for exchange of commodities favor purchases of wheat from other sources, easy credits on American purchases may be necessary. The War Finance Corporation should make special efforts to finance the exportation of wheat in line with the joint resolution of Congress, January, 1921, reviving the activities of that corporation.

The wheat surplus may be reduced materially by increasing domestic consumption. The per capita consumption of wheat flour and bread has been lessened by the war-time campaign to save food coupled with the high prices for bread which have since been maintained. A reduction in the price to consumers by narrowing the margin between wheat flour and bread would, no doubt, increase the consumption, and a return by public eating houses and dining cars to the custom of serving bread free with orders would contribute to the same end. Furthermore, at present prices wheat can be economically substituted for corn as livestock feed in many parts of the country, and its use for this purpose may be increased to advantage.

American freight rates, which are still 45 per cent and more above those of 1913, have not been adjusted to meet the decline in farm prices, whereas Canadian rates are now practically back to their pre-war level. To meet the emergency a reduction of at least 25 per cent in interstate rates on wheat and wheat products originating in the distressed wheat areas would be helpful, these rates to remain effective until wheat prices shall have more nearly reached a parity with the prices of other commodities or until a readjustment

has been made in all freight rates. In order to determine a proper basis for this adjustment, the Interstate Commerce Commission or a special commission composed of representatives of railroads and shippers, and created for that purpose, should review without delay the entire structure of interstate railroad rates and should make or submit recommendations for adjustments which will return adequate revenues to the railroads and as well afford some relief in the way of reducing the cost of transporting agricultural products.

Farm taxes in many sections of the country have become a serious burden, especially in regions where farmers are in financial distress, and a downward revision is essential. The partial substitution of taxes based on income for the present property taxes would provide a measure of relief. Further shifting of the cost of good roads to those who make most use of them, through taxes on gasoline and motor vehicles, offers still another means of a more just distribution of the tax burden.

Changed market conditions necessitate important readjustments in crops. As foreign outlets for American wheat become more restricted, the production of wheat should be gradually placed on a domestic basis, and the wheat acreage should be reduced as fast as profitable alternatives can be found.

Adjustments in agricultural production should be made in accordance with differences in regional and farm conditions. In some parts of the wheat territory some shift from wheat to corn probably will be profitable. Oats for local consumption might be substituted for wheat to a slight extent. With present prices flax will be a profitable alternative on suitable land for a small portion of the wheat acreage in the Northwest. Since the prices of dairy products have continued relatively strong, further emphasis should be placed on dairying and the production of feed crops. This increase in diversity of crops and livestock will in general result in better organization of the farm business and also help to stabilize the farm income.

A safer type of farming must be developed for the semi-arid regions. Lands which are unsuited to field crops should be dropped from cultivation and revert to grass land. Some

forage crops and livestock should be grown on every dry-land farm. Reserves of feed, livestock, poultry, and capital should be carried from year to year to tide over periods of crop failure, and the farm business should be so organized as to secure the maximum returns per man.

Each farmer should carefully review the possibilities which lie before him. Undoubtedly diversification will result, from careful thought on this subject, in many of the States where the surplus wheat acreage is found. On the other hand, in those regions where wheat is grown as a part of a diversified system of farming, it may be that even at the present price it is more profitable than any alternative crop.

In the present critical situation it is very essential that wheat farmers adopt methods which reduce production costs and conserve the cash income. This may be accomplished by avoiding out-of-pocket cost, by growing on the farm in so far as possible the feed supplies for the stock and provisions for the family, a policy which is made more urgent by the increase in freight rates and the high cost of processing and retail distribution, by utilizing to the fullest possible extent the available labor supply and the farm equipment through a well-balanced diversification of crops and a better distribution of labor throughout the year, by keeping land of low production in grass and other crops demanding but little labor or expense, and by devoting labor and capital to such crops and livestock enterprises as promise to give the greatest profits.

Improvement in the quality of wheat produced will materially increase profits in the wheat industry. Certain classes of milling wheats are in special demand and should be substituted for less desirable wheat wherever conditions are favorable. Moreover, heavy and unnecessary losses are incurred by farmers in producing and marketing dirty and low-grade wheat. The production and marketing of dockage is expensive. Wheat should be cleaned before sowing and marketing, care should be exercised in its storage, and such seed selection and farm practices in growing and harvesting should be adopted as will result in the best market grades of wheat.

Prices paid at terminal markets reflect quite accurately the variations in quality of wheat; prices paid at country

points frequently do not. Farmers must know the quality and grade of their wheat in order intelligently to bargain for the best market price. Wheats of high gluten content usually command premiums at terminal markets. While the Federal grades for wheat through subclass specifications indicate broadly the gluten content, the only practicable method of measuring it requires extensive laboratory equipment. It is desirable, therefore, that State authorities, in cooperation with the Federal Government, undertake to determine and make available as early as possible in the harvest season information in regard to the gluten content of wheat in the important wheat-producing areas. Wheats may vary widely in gluten content within local areas; farmers should, therefore, have individual tests made of their wheats by the agencies set up for this purpose.

Concerted and coordinated action in the form of producers' organizations should improve the production and marketing of wheat. Higher returns may be obtained by standardizing the production of wheat in conformity with market demands, and substantial economies may be made in the cost of wheat marketing. Cooperative organizations efficiently managed will contribute to this end and their development should, therefore, be still further encouraged.

The movement of farmers into other occupations which is now under way will help to restore the balance between agriculture and other industries. Every farmer who is not able to make a living where he is should review carefully his own possibilities, but should not make a blind move into other types of farming or into city occupations. There are, however, thousands of farmers skilled in the industries of the city who will doubtless turn to their former occupations for relief.

The adjustments that have been indicated are part of a long-time program for agriculture and must be made in considerable measure through the efforts of the farmers themselves. Yet all of these means will not go far toward promptly restoring the purchasing power of the farmer's dollar, which has been unreasonably reduced by the rapid deflation which agriculture was least able to resist.

Since the immediate difficulty in the present situation is the maladjustment in price ratios, what is most needed right

now is some way to restore the proper ratios either by increasing the prices of farm products or by reducing the prices of other commodities.

The prices of farm equipment, food, clothing, and building materials, as well as farm wages, are influenced by the costs of mining, transportation, and manufacturing, and by the ability to adjust production to that limit of supply which can be sold in the domestic market at a price to yield a profit.

One of the largest elements in the production cost of manufactured products as well as in transportation cost is the wages of labor. Wages have remained high since the war. The immigration and Adamson laws, together with the policies of organized labor, have been potent factors in maintaining wage scales. On the other hand, the domestic market for the products of the manufacturing industries makes it possible for them to continue production at a profit even with high wages for industrial labor. Under these conditions organized industry can maintain high prices in the domestic market and dump surpluses in foreign markets at low prices.

The question may be raised whether protection to labor and industry shall be withdrawn in order that the inflow of foreign labor and maufactured products may reduce the prices of the products which farmers buy to the level of farm products or whether some better remedy should be sought. The better and more practical alternative may be to try to improve prices of farm products of which we have an exportable surplus and which are, therefore, unduly depressed. Abundance of work at good wages gives assurance of good demand for farm products, but justice requires that the farmer be helped so far as possible and proper to secure relatively good wages for his labor. Indeed, industry and labor can not hope long to enjoy a disproportionately high price level for their products for the simple reason that farmers constitute about 30 per cent of the purchasers of such products and if the farmers' ability to buy is materially lessened for any length of time, both industry and labor suffer through lessened demand and prices will be forced lower.

Cooperation among farmers has been suggested as a means of attaining the end sought. While cooperation is

to be encouraged as one of the best means of improving marketing methods and reducing marketing costs, as well as of improving the quality of farm products, it does not appear possible, and certainly not within a short period of time, to organize the producers of the great staples of American agriculture so effectively as to give them that control over supply which is necessary substantially to influence price.

The sale or gift of a substantial part of our surplus wheat to countries which are not able to buy, and which would, therefore, take out of the ordinary channels of trade and competition the wheat sold or given, would unquestionably have a helpful effect upon domestic prices of wheat, provided larger tariff protection were given. Before such sale or gift could be consummated, however, more than two-thirds of this year's wheat crop will have passed out of the hands of the farmers.

Inasmuch as the first step looking toward increasing the domestic price requires the disposition of the surplus over and above domestic needs, and inasmuch as the facts presented in the foregoing pages indicate that the world production of wheat will probably be overlarge for another year or so, the suggestion that the Government set up an export corporation to aid in the disposition of this surplus is worthy of the most careful consideration. Such a corporation necessarily would need rather broad powers. It would not be necessary that it should undertake to handle the entire crop, and it could probably carry on its activities in cooperation with existing private agencies. If it should be found necessary to arrange for the sale of the surplus exported at a price much lower than the domestic price, the loss so incurred would properly be distributed over the entire crop.

The prime duty of such an export corporation would be to restore, so far as possible, the pre-war ratio between wheat, and other farm products of which we export a surplus, and other commodities. Its activities would therefore expand or contract according as the relative prices for farm products varied with other commodities, and it would cease to function as pre-war ratios become fairly well restored.

TABULAR APPENDIX.

CONTENTS.

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TABLE 1.—*Prices of articles bought by farmers, and price of wheat received by farmers in North Dakota and Kansas, July, 1913 and 1923.*

[Division of Crop and Livestock Estimates.]

Article.	North Dakota.		Kansas.	
	1913	1923	1913	1923
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*
Shoes, work.....pair..	2.94	3.63	2.67	3.27
Suits, wool serge, ready made.....	16.55	26.57	15.09	27.13
Boards, rough.....M feet..	33.00	51.00	30.50	52.86
Coal, bituminous.....ton..	7.26	13.96	6.62	11.20
Mower, 5-foot.....	50.50	78.57	47.25	80.62
Wagons, double.....	80.83	142.50	79.77	154.41
Price of wheat received by farmers.....per bushel..	.79	.86	.76	.87

NOTE.—In 1913 the price of wheat was low. The average prices for July, 1909–1913, were for North Dakota, 95 cents; for Kansas, 92 cents. 1913 is used for the above comparisons for the reason that the prices of commodities farmers buy were not obtained for the years 1909–1912.

TABLE 2.—*Quantity of wheat at farm price required to purchase articles named in North Dakota and Kansas, July, 1913 and 1923.*

Article.	North Dakota.		Kansas.	
	1913	1923	1913	1923
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Shoes, work.....	3.7	4.2	3.5	3.8
Suits, wool serge, ready made.....	20.9	30.9	19.9	31.2
Boards.....M feet board measure..	41.8	59.3	40.1	60.8
Coal, bituminous.....ton..	9.2	16.2	8.7	12.9
Mower, 5-foot.....	63.9	91.4	62.2	92.7
Wagon, double, complete.....	102.3	165.7	105.0	177.5

TABLE 3.—*Index numbers of farm price of wheat, wholesale prices of all commodities, retail prices of food, earnings of New York factory workers, cost of living, and freight rates in the United States, 1913–1923.*

Year and month.	Farm price of wheat (average 1910–1914=100).[1]	Wholesale price of all commodities (1913=100).[2]	Retail cost of food (average cost for 1913=100).[2]	Earnings of New York factory workers. (June, 1914=100).[3]	Cost of living (1913 average=100).[2]	50 freight rates (1913=100).[4]
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913.....	90	100	100	.....	.....	100
1914.....	98	98	102	.....	[5]103	99
1915.....	128	101	101	101	[5]105	100
1916.....	133	127	114	114	[5]118	101
1917.....	228	177	146	129	[5]142	101
1918.....	231	194	168	160	174	117
1919.....	244	206	186	185	168	131
1920.....	254	226	203	222	208	147
1921.....	135	147	153	203	177	177
1922.....	117	149	142	197	167	160
1922.						
January.....	106	138	142	192	.....	162
February.....	110	141	142	190	.....	161
March.....	133	142	139	193	167	161

[1] Prices from Division of Crop and Livestock Estimates.
[2] Bureau of Labor Statistics.
[3] New York State Department of Labor.
[4] Bureau of Agricultural Economics.
[5] December only.

TABLE 3.—*Index numbers of farm price of wheat, wholesale prices of all commodities, retail prices of food, earnings of New York factory workers, cost of living, and freight rates in the United States, 1913–1923*—Continued.

Year and month.	Farm price of wheat (average 1910–1914=100).	Wholesale price of all commodities (1913=100).	Retail cost of food (average cost for 1913=100).	Earnings of New York factory workers (June, 1914=100).	Cost of living (1913 average=100).	50 freight rates (1913=100).
1922.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
April	133	143	139	190	.....	162
May	137	148	139	194	.....	161
June	132	150	141	196	167	158
July	116	155	142	195	.....	158
August	110	155	139	198	.....	158
September	100	153	140	202	166	158
October	103	154	143	202	.....	159
November	111	156	145	205	.....	159
December	114	156	147	208	170	159
1923.						
January	120	156	144	206	.....	.....
February	118	157	142	204	.....	.....
March	119	159	142	212	169	.....
April	121	159	143	213	.....	.....
May	125	156	143	218	.....	.....
June	121	153	144	219	170	.....
July	108	151	147	217	.....	.....
August	96	150	146	.....	.....	.....
September	101	154	149	.....	172	.....
October	106	153	.....	.....	.....	.....
November	107	.....	.....	.....	.....	.....
December	.....	.....	.....	.....	.....	.....

TABLE 4.—*Wheat production in all countries reported, average 1909–1913, annual 1919–1923.*

[Official sources and International Institute of Agriculture. Figures in parentheses are interpolated on the basis of acreage, condition reports, and crops of previous years.]

NORTHERN HEMISPHERE.

Country.	Production.					
	Average 1909–1913.	1919	1920	1921	1922	1923
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	197,119	193,260	263,189	300,858	399,786	469,761
United States	690,108	967,979	833,027	814,905	862,091	781,737
Total	887,227	1,161,239	1,096,216	1,115,763	1,261,877	1,251,498
EUROPE.						
United Kingdom	59,640	69,324	56,835	73,795	66,429	[1] 58,753
Norway	307	1,071	999	972	643	569
Sweden	8,103	9,351	10,322	12,335	9,381	9,862
Denmark	[2] 5,341	[2] 5,923	7,390	11,145	9,249	(9,249)
Netherlands	4,976	5,887	6,023	8,605	6,161	6,678
Belgium	14,894	10,565	10,274	14,495	10,615	12,589
Luxemburg	615	466	451	621	173	522
France	[2] 317,636	[2] 182,444	236,929	323,467	243,315	290,474
Spain	130,446	129,250	138,605	145,150	125,469	152,389
Portugal	11,859	8,178	10,376	9,418	9,782	12,964
Italy	[2] 183,334	[2] 169,769	[2] 141,337	194,071	161,641	224,832
Switzerland	3,314	3,891	3,586	3,574	2,348	3,593
Germany	[2] 150,369	79,701	82,583	107,798	69,725	103,604
Austria	[2] 60,841	5,114	5,434	6,530	6,092	8,818
Czechoslovakia	.....	.....	26,362	38,682	33,621	36,537
Hungary	[2] 169,643	.....	38,294	52,715	54,711	66,418
Yugoslavia	[3,4] 14,746	.....	43,011	51,809	44,470	61,894

[1] Scotland and Ireland estimated. [2] Old boundaries.

TABLE 4.—*Wheat production in all countries reported, average 1909–1913, annual 1919–1923*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Production.					
	Average 1909–1913.	1919	1920	1921	1922	1923
EUROPE—continued.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Greece	[5] 12,620	9,808	11,188	11,170	9,533	13,356
Bulgaria	[2] 42,174	29,775	30,003	29,239	37,704	38,783
Rumania	[6] 109,324	66,020	61,309	78,563	92,757	115,900
Poland	[7] (28,629)	.....	22,741	37,409	42,378	53,381
Lithuania	[7] (2,857)	2,646	2,199	2,840	3,274	2,965
Latvia	[7] (1,455)	.....	389	784	958	1,102
Esthonia	[7] (344)	472	(472)	427	760	(760)
Finland	137	262	272	280	296	515
Russia, including Ukraine and Northern Caucasia	[7] (609,078)	.....	.....	.....	158,418	.....
Total, including Russia, reporting and estimated	1,942,673	.....	.....	.....	1,199,903	.....
Total, excluding Russia, reporting and estimated in 1923	1,333,595	.....	947,384	1,216,074	1,041,485	1,286,507
AFRICA.						
Morocco	(20,000)	16,391	17,947	23,241	12,894	23,549
Algeria	35,161	21,003	8,433	34,906	18,233	38,383
Tunis	6,224	6,981	5,229	10,619	3,674	9,406
Egypt	34,316	30,722	32,327	37,010	36,648	40,304
Total reporting for 1923	95,701	75,097	63,936	105,776	71,449	111,642
ASIA.						
India	351,841	280,261	377,888	250,357	365,352	369,264
Russia (Asiatic)	151,113	.....	.....	.....	45,359	.....
Japanese Empire:						
Japan	25,088	32,561	30,155	28,575	27,617	26,485
Korea	6,898	8,553	10,984	10,705	9,922	9,204
Formosa	169	150	141	110	(120)	(120)
Kwantung	[4] 40	31	30	62	(40)	(40)
Total Asiatic countries reporting and estimated in 1923	384,036	321,556	419,198	289,809	403,051	405,113
Total Northern Hemisphere countries, including Russia, reporting and estimated	3,460,750	.....	.....	.....	2,981,639	.....
Total Northern Hemisphere countries, excluding Russia, reporting and estimated in 1923	2,700,559	.....	2,526,734	2,727,422	2,777,862	3,054,760

[2] Old boundaries.
[3] Former Kingdom of Serbia.
[4] Three-year average.
[5] One year only.
[6] Former territory of Rumania and Bessarabia.
[7] Rough preliminary estimate of former Russian territory.

TABLE 4.—*Wheat production in all countries reported, average 1909–1913, annual 1919–1923*—Continued.

SOUTHERN HEMISPHERE.

Country.	Production.					
	Average 1909–10 to 1913–14.	1919–20	1920–21	1921–22	1922–23	1923–24
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Peru	[8] 2,866	2,357	3,001	[9] 2,800	(2,800)	(3,000)
Chile	20,062	19,916	23,201	23,423	23,815	(23,000)
Uruguay	[10] 6,519	5,948	7,768	9,944	3,674	(5,000)
Argentina	147,059	216,954	156,133	191,012	189,046	248,752
Union of South Africa	[10] 6,769	5,129	7,613	8,689	6,696	(6,000)
Australia	90,497	45,975	145,874	129,089	109,460	[9] 120,000
New Zealand	6,925	4,560	6,872	10,565	8,416	(8,000)
Total Southern Hemisphere countries reporting and estimated in 1923	280,697	300,839	350,462	375,522	343,907	413,752
Total world countries, including Russia, reporting and estimated.	3,741,447	.....	.....	.....	3,325,546	.....
Total world countries, excluding Russia, reporting and estimated in 1923	2,981,256	.....	2,877,196	3,102,944	3,121,769	3,468,512

[8] Two-year average. [9] Unofficial. [10] Four-year average.

TABLE 5.—*Wheat acreage in all countries reported, average 1909–1913, annual 1919–1923.*

[Official sources and International Institute of Agriculture. Figures in parentheses are interpolated on the basis of acreage, condition reports, and crops of previous years.]

NORTHERN HEMISPHERE.

Country.	Acreage.					
	Average, 1909–1913.	1919	1920	1921	1922	1923
NORTH AMERICA.						
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Canada	9,945	19,126	18,232	23,261	22,423	22,170
United States	47,097	75,694	61,143	63,696	61,230	58,253
Total	57,042	94,820	79,375	86,957	83,653	80,423
EUROPE.						
United Kingdom	1,887	2,371	1,979	2,084	2,073	1,841
Norway	12	41	40	41	25	25
Sweden	255	347	358	360	356	356
Denmark	[1, 2] 134	[1] 128	180	220	237	(237)
Netherlands	138	168	152	180	150	153
Belgium	396	343	306	343	300	340
Luxemburg	27	27	27	29	23	25
France	[1] 16,159	[1] 11,376	12,586	13,300	13,072	13,656
Spain	9,547	10,378	10,254	10,386	10,309	10,379
Portugal	1,211	1,103	1,098	1,267	1,123	1,123
Italy	[1] 11,722	[1] 10,592	[1] 11,290	[1] 11,779	11,489	11,614
Switzerland	105	130	119	117	103	105
Germany	[1] 4,700	3,209	3,399	3,561	3,396	3,653
Austria	[1] 3,011	371	369	378	460	475
Czechoslovakia	.....	.....	1,573	1,556	1,527	1,509
Hungary	[1] 9,089	.....	2,662	2,888	2,854	3,411
Yugoslavia	[3, 4] 944	.....	3,360	3,699	3,723	3,606
Greece	[2] 868	1,068	1,399	988	890	1,071
Bulgaria	[1] 2,676	2,057	2,183	2,233	2,226	2,259

[1] Old boundaries.
[2] One year only.
[3] Former Kingdom of Serbia.
[4] Three year average.

TABLE 5.—*Wheat acreage in all countries reported, average 1909–1913, annual 1919–1923*—Continued.

NORTHERN HEMISPHERE—Continued.

Country.	Acreage.					
	Average, 1909–1913.	1919	1920	1921	1922	1923
EUROPE—Continued.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Rumania	[5] 4,578	4,271	4,998	6,149	6,548	6,632
Poland	[6] (1,619)	.....	1,791	2,093	2,574	2,514
Lithuania	[6] (183)	148	162	179	194	202
Latvia	[6] (83)	.....	39	46	70	(70)
Esthonia	[6] (21)	33	31	31	52	(52)
Finland	8	19	22	20	22	31
Russia, including Ukraine and Northern Caucasia	[6] (57,748)	.....	[7] 33,009	.....	16,563	.....
Total, including Russia, reporting and estimated	127,121	.....	93,386	.....	80,359	.....
Total, excluding Russia, reporting and estimated in 1923	69,373	.....	60,377	63,927	63,796	65,339
AFRICA.						
Morocco	(2,000)	2,114	1,995	1,960	2,068	2,319
Algeria	3,521	2,891	3,133	2,782	3,103	3,157
Tunis	1,310	1,408	1,319	1,492	882	1,112
Egypt	1,332	1,323	1,190	1,458	1,518	(1,518)
Total reporting for 1923	8,163	7,736	7,637	7,692	7,571	8,106
ASIA.						
India	29,224	23,798	29,949	25,784	28,234	30,492
Russia (Asiatic)	16,789	.....	[8] 13,358	.....	5,820	.....
Japanese Empire:						
Japan	1,179	1,344	1,308	1,264	1,229	1,198
Korea	574	850	871	(850)	(850)	(850)
Formosa	15	17	16	13	(13)	(13)
Kwantung	[4] 4	4	4	4	(4)	(4)
Total Asiatic countries reporting and estimated in 1923	30,996	26,013	32,148	27,915	30,330	32,557
Total countries of Northern Hemisphere, including Russia, reporting and estimated.	240,111	.....	225,904	.....	207,733	.....
Total countries of Northern Hemisphere, excluding Russia, reporting and estimated in 1923	165,574	.....	179,537	186,491	185,350	186,425

SOUTHERN HEMISPHERE.

Country.	Acreage.					
	Average 1909–10 to 1913–14.	1919–20	1920–21	1921–22	1922–23	1923–24
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Peru	[9] 192	204	232	(200)	(200)	(200)
Chile	1,005	1,196	1,258	1,314	1,285	(1,285)
Uruguay	[10] 791	680	700	812	663	(665)
Argentina	15,399	14,957	14,816	13,927	16,081	17,038
Union of South Africa	[10] 745	819	823	839	(825)	(825)
Australia	7,603	6,419	9,072	9,719	9,959	(10,000)
New Zealand	241	140	220	353	276	(275)
Total Southern Hemisphere countries reporting and estimated in 1923	25,976	.....	27,121	27,164	29,289	30,288
Total world countries, including Russia, reporting and estimated.	266,087	.....	253,025	.....	237,022	.....
Total world countries, excluding Russia, reporting and estimated in 1923	191,550	.....	206,658	213,655	214,639	216,713

[4] Three-year average.
[5] Former territory of Rumania and Bessarabia.
[6] Rough preliminary estimate of former Russian territory.
[7] Includes Russia in Europe, Northern Caucasia, Crimea, Ukraine.
[8] Siberia and Kirghizie.
[9] Two-year average.
[10] Four-year average.

Official sources and International Institute of Agriculture.

TABLE 6.—*Rye production in all countries reported, average 1909–1913, annual 1920–1923.*

[Official sources and International Institute of Agriculture. Figures in parentheses are interpolated on the basis of acreage, condition reports, and crops of previous years.]

NORTHERN HEMISPHERE.

Country.	Production.				
	Average, 1909–1913.	1920	1921	1922	1923
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	2,094	11,306	21,455	32,373	26,937
United States	36,093	60,490	61,675	95,497	64,800
Total North American countries	38,187	71,796	83,130	127,670	91,737
EUROPE.					
Norway	974	970	1,043	862	840
Sweden	23,859	22,434	27,808	22,678	22,100
Denmark	18,096	13,242	12,204	14,600	(17,000)
Netherlands	16,422	14,795	17,987	17,140	15,393
Belgium	22,675	18,168	21,273	18,384	19,538
Luxemburg	651	340	[1] 707	250	409
France	[2] 48,647	32,130	44,392	38,412	36,927
Spain	[2] 27,635	27,830	28,118	26,252	28,642
Portugal	(4,000)	5,154	4,564	2,361	5,372
Italy	[2] 5,328	[2] 4,539	[2] 6,519	5,562	6,693
Switzerland	[2] 1,783	1,622	1,559	1,488	1,646
Germany	[2] 445,222	194,255	267,648	206,049	282,464
Austria	[2] 112,752	10,098	13,161	12,990	15,629
Czechoslovakia	.....	32,941	53,735	51,097	51,813
Hungary	[2] 48,716	20,564	23,177	25,156	31,762
Yugoslavia	4,208	6,091	5,816	7,100	5,913
Greece	(2,000)	1,360	3,150	2,361	2,662
Bulgaria	8,553	6,056	6,712	7,204	8,480
Rumania	[2] 4,652	9,485	9,081	6,946	10,322
Poland	[4] (145,000)	73,659	167,558	197,375	257,579
Lithuania	[4] (17,000)	21,047	21,047	24,249	24,078
Latvia	[4] (12,300)	4,686	[5] 9,806	[5] 7,397	11,810
Esthonia	[4] (6,700)	6,435	5,908	5,797	6,863
Finland	11,174	9,173	10,385	7,776	10,592
Bessarabia	[4] (7,000)	.....	.....	.....	.....
Russia, including Ukraine and Northern Caucasia	701,236	.....	.....	.....	.....
Total European countries reporting and estimated	1,696,583	.....	.....	.....	.....
Total European countries reporting and estimated in 1923	995,347	537,074	763,358	709,486	874,527
ASIA AND AFRICA.					
Algeria	(6)	4	4	4	17
Russia (Asiatic)	24,663	.....	.....	.....	.....

SOUTHERN HEMISPHERE.

	Average 1909–10 to 1913–14.	1920–21	1921–22	1922–23	1923–24
Chile	112	74	57	63	.....
Uruguay	[7] 1	4	(6)	(6)	.....
Argentina	[8] 1,399	821	1,692	2,147	3,701
Union of South Africa	[9] 724	.....	.....	.....	.....
Australia	114	75	.....	.....	.....
New Zealand	[9] 114	.....	.....	.....	.....
World total countries reporting and estimated	1,761,897	.....	.....	.....	.....
World total countries reporting and estimated in 1923	1,034,933	609,695	848,184	839,307	969,982

[1] Includes some maslin.
[2] Old boundaries.
[3] Includes 885,000 bushels grown in new territory.
[4] Estimated production in territory taken from Russia.
[5] Consular Report, Oct. 25, 1922.
[6] Less than 500.
[7] Three-year average.
[8] Four-year average.
[9] One year only.

TABLE 7.—*Net imports of wheat, including flour in terms of wheat, for the leading wheat-importing countries of Europe, average 1909–1913, annual 1920–1922, with estimates for 1923, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 258 to 261; the International Crop Report and Agricultural Statistics, September, 1923; 1923–24 estimates.]

Country.	1909–1913	1920	1921	1922, preliminary.	1923, estimate.	
					Maximum.	Minimum.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
United Kingdom	216,803	198,981	206,972	211,956	227,000	210,000
Germany	68,075	59,773	69,505	38,020	40,000	20,000
Italy	53,101	99,378	100,518	117,687	70,000	60,000
Belgium	50,353	32,161	40,506	39,771	40,000	33,000
France	43,619	68,316	17,147	45,896	40,000	10,000
Netherlands	22,267	18,805	19,689	27,245	23,000	20,000
Switzerland	16,923	12,882	13,216	16,017	20,000	15,000
Austria	10,531	14,342	18,669	12,986	15,000	10,000
Denmark	6,558	340	3,916	5,877	6,000	3,000
Sweden	7,057	6,564	3,848	9,469	7,000	5,000
Spain	6,192	19,804	8,025	.....	8,000	4,000
Norway	3,674	3,816	5,088	6,621	5,000	4,000
Greece	.....	10,536	13,228	15,700	15,000	10,000
Finland	.....	2,394	3,268	4,909	5,000	4,000
Czechoslovakia	.....	17,777	11,200	11,947	10,000	7,000
Hungary	.....	6	.....	.....	.....	.....
Portugal	2,411	.....	.....	.....	.....	.....
Latvia	.....	567	721	.....	.....	.....
Total	507,564	566,442	535,516	564,101	531,000	415,000

TABLE 8.—*Net exports of wheat, including flour in terms of wheat, for the leading wheat-exporting countries of Europe, average 1909–1913, annual 1920–1922, with estimates for 1923, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 258 to 261; the International Crop Report and Agricultural Statistics, September, 1923; 1923–24 estimates.]

Country.	1909–1913	1920	1921	1922, preliminary.	1923, estimate.	
					Maximum.	Minimum.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Russia	164,305	.....	.....	.....	20,000	10,000
Rumania	54,434	1,384	3,494	1,595	25,000	10,000
Hungary	41,901	.....	9,091	5,154	15,000	10,000
Bulgaria	11,182	1,758	4,476	.....	10,000	5,000
Yugoslavia	.....	3,692	2,793	.....	10,000	5,000
Total	271,822	6,834	19,854	6,749	80,000	40,000

TABLE 9.—*Net imports of wheat, including flour in terms of wheat, into countries outside of Europe, average 1909–1913, annual 1920–1922, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 258 to 261; the International Crop Report and Agricultural Statistics, September, 1923.]

Country.	1909–1913	1920	1921	1922, preliminary.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Japan	4,088	5,759	24,764	14,092
British India	.....	.....	13,918	.....
Algeria	.....	5,556	.....	.....
Egypt	21	10,867	6,590	7,463
Tunis	786	1,313	.....	.....
Total	4,895	23,495	45,272	21,555

TABLE 10.—*Net exports of wheat, including flour in terms of wheat, from countries outside of Europe, average 1909–1913, annual 1920–1922, with estimates for 1923, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 258 to 261; the International Crop Report and Agricultural Statistics, September, 1923; 1923-24 estimates.]

Country.	1909-1913	1920	1921	1922, preliminary.	1923, estimate.	
					Maximum.	Minimum.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	95,380	166,762	185,395	293,216	375,000	280,000
United States	108,469	316,085	248,430	196,836	150,000	100,000
Argentina	[1] 95,240	63,439	117,979	139,229	200,000	100,000
Algeria	5,298	.....	4,187	2,447	.....	.....
Tunis	.....	.....	1,621	918	20,000	15,000
British India	49,681	14,942	.....	28,862	50,000	40,000
Australia	49,725	87,336	116,464	49,594	75,000	40,000
Total	403,793	648,564	674,076	711,102	870,000	575,000

[1] Calendar years.

TABLE 11.—*Exports of wheat, including flour in terms of wheat, from the United States by countries, average 1909–1913, annual 1918–1922, years beginning July 1.*

[Foreign Commerce and Navigation of the United States.]

Country to which exported.	Average 1909-1913.	1918	1919	1920	1921	1922
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Belgium	7,252	29,537	18,865	28,831	18,083	11,535
Denmark	1,661	723	84	488	1,972	929
France	3,033	31,227	39,867	24,446	5,740	14,803
Germany	6,998	.....	1,554	34,473	28,606	13,275
Greece	67	681	1,404	6,715	295	2,328
Italy	2,418	43,463	38,417	58,542	35,882	34,016
Netherlands	12,035	8,931	714	27,064	23,387	16,669
Norway	1,001	834	238	2,144	2,101	2,216
Portugal	562	1,641	261	1,541	823	17
Spain	33	249	486	9,950	2,453	30
Sweden	250	[1]	459	2,493	1,139	947
Switzerland	[1]	8,154	2,207	335	45	3
United Kingdom	34,013	115,183	61,133	102,690	63,167	35,850
Total 13 European countries	69,323	240.623	165,689	299,712	183,693	133,618
Canada	2,149	26,636	8,430	10,907	29,648	32,294
Mexico	1,320	1,730	1,420	2,765	4,106	2,906
Cuba	3,882	4,763	7,225	4,466	4,809	4,921
Brazil	2,554	142	1,717	5,777	2,989	2,149
Chile	215	1	2	11	48	129
Peru	703	16	70	1,052	1,436	561
Venezuela	723	335	613	670	348	376
Hongkong	5,053	7	712	641	4,380	3,730
Japan	5,096	[1]	491	1,290	13,833	6,454
Australia	[1]	.....	[1]	.....	[1]	12
Philippine Islands	1,254	27	444	893	1,499	2,114
British South Africa	108	[1]	22	720	27	52
Other countries	12,587	13,122	33,030	37,173	32,591	32,607
Grand total	104,967	287,402	219,865	366,077	279,407	221,923

[1] Less than 500 bushels.

TABLE 12.—*Net imports of rye of the leading rye-importing countries of Europe, average 1909–1913, annual 1920–1922, with estimates for 1923, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 262 and 263; the International Crop Report and Agricultural Statistics, September, 1923; 1923–24 estimates.]

Country.	1909–1913	1920	1921	1922 preliminary.	1923 estimate.	
					Maximum.	Minimum.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Finland	.....	2,600	3,520	5,527	5,000	2,000
Netherlands	11,668	67	125	3,729	2,000	1,000
Austria	1,467	1,644	2,135	1,680	4,000	2,000
Norway	10,592	6,293	7,110	6,866	7,000	5,000
Denmark	8,465	.....	2,297	4,641	4,000	2,000
Belgium	4,498	752	251	275	0	0
Sweden	3,881	.....	.....	.....	1,000	0
France	3,309	9,615	.....	627	1,000	0
Germany	.....	23,668	5,967	43,430	0	0
Czechoslovakia	.....	3,115	630	146	2,000	0
Switzerland	727	(1)	40	.....	.....	.....
Italy	647	4,153	9	.....	.....	.....
Portugal	174	.....	.....	.....	.....	.....
Poland	.....	.....	96	.....	.....	.....
Greece	.....	4	4	.....	.....	.....
Total	45,428	51,911	22,184	66,921	26,000	12,000

[1] Less than 500 bushels.

TABLE 13.—*Net exports of rye of the leading rye-exporting countries of Europe, average 1909–1913, annual 1920–1922, with estimates for 1923, years beginning August 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 262 and 263; the International Crop Report and Agricultural Statistics, September, 1923; 1923–24 estimates.]

Country.	1909–1913	1920	1921	1922 preliminary.	1923 estimate.	
					Maximum.	Minimum.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
France	.....	.....	1,275	.....	.....	.....
Russia	28,598	.....	.....	.....	20,000	15,000
Germany	27,602	.....	.....	.....	5,000	0
Poland	.....	.....	.....	.....	20,000	10,000
Rumania	2,967	5,211	1,212	20	1,000	0
Bulgaria	1,925	193	263	.....	1,000	0
Sweden	.....	1,634	1,884	55	0	0
Hungary	14,010	.....	27	20	6,000	2,000
Denmark	.....	318	.....	.....	0	0
Yugoslavia	.....	31	66	.....	.....	.....
Total	75,102	7,387	4,727	95	53,000	27,000

TABLE 14.—*Net exports of rye, including flour in terms of rye, from countries outside of Europe, average 1909–1913, annual 1920–1922, years beginning July 1.*

[International Yearbook of Agricultural Statistics, 1922, pages 262–263; the International Crop Report and Agricultural Statistics, September, 1923.]

Country.	1909–1913	1920	1921	1922, preliminary.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada	.....	3,205	4,279	9,811
United States	942	40,383	32,023	51,950
Argentina	[1] 443	901	850	1,673
Total	1,385	44,489	37,152	63,434

[1] Calendar years.

TABLE 15.—*Wheat balance of the United Kingdom, 1909–1922.*

[Annual statement of the trade of the United Kingdom.]

Calendar year.	Domestic production.	Net imports.	Total supply.	Calendar year.	Domestic production.	Net imports.	Total supply.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*		*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Average:							
1909–1913	59,640	214,639	274,279	1915	73,912	186,855	260,767
1914–1918	76,717	197,883	268,600	1916	59,776	209,124	268,900
1919–1922	66,298	200,687	266,985	1917	64,320	205,564	269,884
1909	63,197	206,539	269,736	1918	93,144	174,979	268,123
1910	56,593	216,784	273,377	1919	69,320	177,968	247,288
1911	64,313	203,307	267,620	1920	56,832	233,785	290,617
1912	57,400	224,146	281,546	1921	73,792	182,883	256,675
1913	56,696	222,419	279,115	1922	65,248	208,112	273,360
1914	62,432	212,894	275,326				

TABLE 16.—*Wheat balance of France, 1909–1922.*

[Documents Statistique sur le Commerce de la France.]

Year.	Domestic production.	Net imports, years beginning July 1.	Total supply, years beginning July 1.	Year.	Domestic production.	Net imports, years beginning July 1.	Total supply, years beginning July 1.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*		*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Average:							
1909–1913	317,636	48,730	366,366	1915	222,776	78,479	301,255
1914–1918	214,727	79,847	294,574	1916	204,908	123,787	328,695
1918–1922	247,700	57,490	305,190	1917	134,575	72,704	207,279
1909	359,174	9,080	368,254	1918	[1] 228,688	71,902	300,590
1910	252,963	95,122	348,085	1919	[1] 187,091	86,657	273,748
1911	322,339	25,296	347,635	1920	[1] 236,929	73,374	310,303
1912	334,333	53,404	387,737	1921	[1] 323,467	21,129	344,596
1913	319,370	60,751	380,121	1922	[1] 243,315	[2] 48,800	292,100
1914	282,689	52,365	335,054				

[1] New boundaries. [2] Broomhall's estimate.

TABLE 17.—*Wheat balance of Italy, 1909–1922.*

[Statistica del Commercio Speciale.]

Calendar year.	Domestic production.	Net imports.	Total supply.	Calendar year.	Domestic production.	Net imports.	Total supply.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*		*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Average:							
1909–1913	183,334	53,886	237,220	1915	170,541	82,028	252,569
1914–1918	167,989	68,591	236,580	1916	176,530	72,893	249,423
1919–1922	166,704	93,261	259,965	1917	139,999	76,227	216,226
1909	190,378	46,868	237,246	1918	183,294	78,348	261,642
1910	153,403	50,038	203,441	1919	169,769	94,589	264,358
1911	192,395	47,829	240,224	1920	141,337	78,297	219,634
1912	165,720	62,858	228,578	1921	[1] 194,071	102,691	296,762
1913	214,772	61,837	276,609	1922	[1] 161,641	97,468	259,109
1914	169,582	33,459	203,041				

[1] New boundaries.

TABLE 18.—*Wheat and rye balance of Germany, 1909–1923.*

[Auswartigen Handel Deutschlands.]

Calendar year.	Wheat.			Rye.		
	Domestic production.	Net imports.	Total supply.	Domestic production.	Net exports.	Total supply.
Average:	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*
1909–1913	152,119	68,606	220,725	445,222	26,836	418,386
1914–1918	114,165	(1)	(1)	332,228	(1)	(1)
1920–1922	87,438	[2] 54,709	[2] 141,147	222,651	[2] 14,573	[2] 237,224
1909	137,999	73,978	211,977	446,763	21,921	424,842
1910	141,884	66,911	208,795	413,802	28,106	385,696
1911	149,411	72,622	222,033	427,776	15,836	411,940
1912	160,224	64,708	224,932	456,600	30,283	426,317
1913	171,075	64,813	235,888	481,169	38,033	443,136
1914	145,944	[3] 28,009	173,953	410,478	[3] 17,761	392,717
1915	141,676	(1)	141,676	360,310	(1)	360,310
1916	113,393	(1)	113,393	351,826	(1)	351,826
1917	83,945	(1)	83,945	275,696	(1)	275,696
1918	[4] 85,865	(1)	85,865	262,832	(1)	262,832
1919	[4] 79,701	(1)	79,701	240,161	(1)	240,161
1920	[4] 82,583	23,662	106,245	194,255	[5] 16,546	210,801
1921	[4] 107,798	[6] 59,443	[7] 197,000	267,648	[5 6] 4,666	[7] 274,647
1922	[4] 71,933	51,300	123,233	206,049	[5] 20,175	226,224
1923	[4] 98,000	.....	.....	290,000	.....	.....

[1] Figures not available.
[2] Three-year average including 1921 net imports x 3/2.
[3] First six months.
[4] New boundaries.
[5] Net imports.
[6] Eight months.
[7] Production plus net imports x 3/2.

TABLE 19.—*Disposition of the wheat crop, United States and principal wheat-growing States.*

[Reports from farmers November, 1923, to the Division of Crop and Livestock Estimates.]

State and geographic division.	Usual disposition of the crop.				Intended disposition of the 1923 crop.			
	Used for seed.	Fed to live-stock.	Milled in county.	Shipped out of county.	Used for seed.	Fed to live-stock.	Milled in county.	Shipped out of county.
	Per cent.	*Percent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
United States	8.6	8.1	20.5	62.8	9.3	11.6	20.4	58.7
Geographic divisions:								
North Atlantic	9.2	21.1	38.4	31.3	8.9	25.8	38.4	26.9
South Atlantic	9.7	8.8	57.2	24.3	9.7	11.1	56.2	23.0
East North Central	8.5	7.5	25.4	58.6	8.0	12.6	24.4	55.0
West North Central	9.6	4.4	14.7	71.3	12.1	8.4	14.7	64.8
South Central	9.7	6.6	26.3	57.4	9.3	12.1	26.1	52.5
Far Western	6.6	11.3	13.3	68.8	6.6	12.6	13.9	66.9
New York	10	24	35	31	9	29	33	29
Pennsylvania	9	18	40	33	9	23	41	27
Maryland	9	9	29	53	9	13	30	48
Virginia	10	8	64	18	10	10	61	19
North Carolina	10	7	80	3	10	7	80	3
Ohio	10	9	30	51	9	16	29	46
Indiana	9	6	27	58	8	10	28	54
Illinois	7	6	18	69	7	10	16	67
Michigan	9	11	32	48	9	17	31	43
Minnesota	10	7	20	63	10	9	20	61
Iowa	9	8	18	65	8	10	17	65
Missouri	8	8	26	58	7	14	25	54
North Dakota	11	1	6	82	13	4	6	77
South Dakota	10	4	7	79	11	6	5	78
Nebraska	8	4	14	74	9	8	15	68
Kansas	10	4	16	70	17	9	17	57
Kentucky	10	5	70	15	9	8	69	14
Tennessee	10	7	64	19	10	10	64	16
Texas	9	4	26	61	10	12	26	52
Oklahoma	10	8	12	70	9	13	12	66
Montana	8	5	8	79	8	7	8	77
Colorado	7	8	17	68	8	15	17	60
Utah	6	22	40	32	7	25	38	30
Idaho	5	18	9	68	6	18	8	68
Washington	6	10	14	70	5	8	17	70
Oregon	5	12	11	72	5	14	11	70
California	8	18	19	55	8	21	18	53

TABLE 20.—*Wheat: Supply and distribution and per capita disappearance in the United States, years beginning July 1.*

[Division of Statistical and Historical Research.]

	Average, 1899–1908.	Average, 1909–1913.	Average, 1914–1920.	1921	1922	1923
Supply:	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*
Stocks on farms July 1	43,608	28,841	32,631	56,707	32,359	35,634
Stocks in country mills and elevators July 1	27,000	29,000	24,854	26,767	28,756	36,458
Commercial visible (Bradstreet's) July 1	32,194	24,168	19,290	9,966	20,342	29,403
Stocks of flour (in terms of wheat) July 1	7,114	7,960	8,251	6,808	7,461	10,049
New crop	677,927	690,108	844,605	814,905	862,091	781,737
Imports (flour included) July 1 to June 30	746	1,808	19,746	17,252	19,945	[1] 19,945
Total supply	788,589	781,885	949,377	932,405	970,954	913,226
Distribution:						
Exports July 1 to June 30 (flour included)	152,623	104,967	255,011	279,407	221,923	.....
Estimated seed requirements	68,995	72,383	88,600	92,617	89,537	.....
Carryover on June 30—						
On farms	38,709	32,276	36,127	32,359	35,634	.....
In country mills and elevators	25,300	31,000	24,678	28,756	36,458	.....
Commercial visible (Bradstreet's)	28,476	25,041	18,265	20,342	29,403	.....
Flour (in terms of wheat)	6,990	8,555	7,972	8,392	10,049	.....
Total distribution	321,093	274,222	430,653	461,873	423,004	.....
Disappearance for food and feed	468,403	507,663	518,724	470,532	547,950	.....
Population	82,614	94,378	102,880	108,541	109,956	111,371
Per capita disappearance, food and feed, bushels	5.67	5.38	5.04	4.34	4.98	.....

[1] The same amount as in 1922, supplied to balance.

TABLE 21.—*Wheat: Production and exports; inspection for export by classes, July 1, 1920—October 31, 1923; and production, 1920–1923.*

[Division Statistical and Historical Research.]

Class.	July 1, 1920, to June 30, 1921.		July 1, 1921, to June 30, 1922.		July 1, 1922, to June 30, 1923.		July 1, 1920, to June 30, 1923.[1]		July 1, 1923, to Oct. 31, 1923.	
	Estimated production.[2]	Exports, gross.	Estimated production.[2]	Exports, gross.	Estimated production.[2]	Exports, gross.	Estimated production.[2]	Exports, gross.	Estimated production.[2]	Exports, four months.
Reported inspections:	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hard red spring	153,878	10,081	143,954	20,145	172,941	8,718	156,924	12,982	134,418	614
Durum	41,954	4,872	49,533	8,697	85,280	12,271	58,922	8,613	45,779	1,264
Hard red winter	294,536	132,701	276,029	78,477	268,155	51,654	279,573	87,610	219,784	13,391
Soft red winter	247,102	34,281	237,818	18,998	245,112	20,846	243,344	24,708	264,753	6,245
White	95,557	1,183	107,571	758	90,603	13,602	97,910	5,182	117,003	7,214
Mixed [3]	.....	68,615	.....	18,963	.....	25,047	.....	37,542	.....	2,636
Type sample [4]	.....	26,546	.....	42,894	.....	.....	.....	23,146	.....	.....
Not classified [5]	.....	87,798	.....	90,475	.....	89,785	.....	89,352	.....	42,504
Total	833,027	366,077	814,905	279,407	862,091	221,923	836,673	289,135	781,737	73,868

[1] Three-year average.

[2] Based on estimate of percentage classification by States as reported in 1921, Division Crop and Livestock Estimates.

[3] From July 1, 1921, to June 30, 1923, 70 per cent of the exports of mixed wheat is estimated as durum. Mixed wheat exports in 1920–21 were largely soft and hard winter wheats shipped through Gulf ports; 20,030,000 bushels of durum were estimated mixed with spring wheat in 1920–21.

[4] Prior to July 1, 1922, practically all wheat exported from Pacific coast was shipped on basis of "Portland (Oreg.) Chamber of Commerce type sample." Since July 1, 1922, all wheat exported from Pacific coast has been inspected basis Federal grades and classes.

[5] Exports of wheat other than reported as "Federal inspected" and flour in terms of wheat.

TABLE 22.—*Wheat inspections for export, July 1, 1920–October, 1923.*

Year and month.	Atlantic ports.	Gulf ports.	Pacific ports.	Total.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
1920–21	89,937	159,571	27,216	276,724
1921–22	66,120	79,910	42,825	188,855
1922–23	66,963	44,729	20,466	132,158
1923				
July	1,209	1,525	759	3,493
August	2,779	6,679	2,068	11,526
September	2,536	731	4,591	7,858
October	1,281	1,091	6,115	8,487
Total, four months	7,805	10,026	13,523	31,364

TABLE 23.—*Average annual prices and index numbers of prices of wheat, flour, bread, bran, and middlings at specified cities, 1909–1923, years beginning July 1.*

PRICES.

Year.	Wheat per bushel, Minneapolis.[1]	Wheat flour per barrel.[2]		Bread per pound, Minneapolis.	Bran per ton, Minneapolis.	Middlings per ton, Minneapolis.
		New York.	Minneapolis.			
Average:	*Cents.*	*Dollars.*	*Dollars.*	*Cents.*	*Dollars.*	*Dollars.*
1909–1913	99	5.25	4.98	.....	20.37	24.22
1914–1920	190	9.82	9.63	.....	29.44	37.15
Year:						
1913	88	4.73	4.43	5.3	21.04	24.13
1914	120	6.52	6.43	5.8	21.04	27.04
1915	109	6.26	5.82	6.4	19.04	24.95
1916	176	9.88	9.52	7.9	27.34	34.58
1917	220	11.23	10.62	9.7	32.47	43.11
1918	225	11.29	10.97	9.0	34.46	39.51
1919	272	13.29	13.54	10.1	43.24	55.16
1920	207	10.27	10.51	10.3	28.46	35.68
1921	143	7.82	8.07	8.9	19.42	23.48
1922	120	6.82	6.89	[3] 9.0	23.27	27.22
1923	.....	.....	.....	.....	.....	.....

INDEX NUMBERS OF PRICES.

Average:	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1909–1913	100	100	100	.....	100	100
1914–1920	192	187	193	.....	145	153
Year:						
1913	89	90	89	100	103	109
1914	121	124	129	109	103	112
1915	110	119	117	121	93	103
1916	178	188	191	149	134	143
1917	222	214	213	183	159	178
1918	227	215	220	170	169	163
1919	275	253	272	191	212	228
1920	209	196	211	194	140	147
1921	144	149	162	168	95	97
1922	121	130	138	170	114	112
1923	.....	.....	.....	.....	.....	.....

[1] No. 1 northern spring. [2] Spring patents. [3] July 15 to May 15.

TABLE 24.—*Export rail and water rates to Liverpool on wheat from the producing regions of the United States, Canada, and Argentina, 1923.*

[Interstate Commerce Commission, United States Shipping Board, Consular Reports, Dominion Bureau of Statistics, International Institute of Agriculture.]

To Liverpool—	Miles.	Rate per bushel.	Total rates per bushel.
FROM CANADA.			
Regina via Port Arthur to Buffalo:		*Cents.*	*Cents.*
1. Regina to Port Arthur	794	12.0	.....
2. Port Arthur to Buffalo	.....	[1] 3.0	.....
3. Buffalo to New York	.....	9.1	.....
Total rate to seaboard	.....	24.1	.....
4. New York to Liverpool	.....	[2] 4.8	28.9
FROM UNITED STATES.			
Scobey, Mont., via Duluth to Buffalo:			
1. Scobey to Duluth	708	22.5	.....
2. Duluth to Buffalo	.....	3.0	.....
3. Buffalo to New York	.....	9.1	.....
Total rate to seaboard	.....	34.6	.....
4. New York to Liverpool	.....	[2] 4.8	39.4
McPherson via Gulf:			
1. McPherson to Galveston	974	27.0	.....
2. Galveston to Liverpool	.....	[2] 8.6	35.6
1. McPherson to New Orleans	771	27.0	.....
2. New Orleans to Liverpool	.....	[2] 8.6	35.6
FROM ARGENTINA.			
1. Corral de Bustos to Rosario	111	9.5	.....
2. Rosario to Liverpool	.....	[2] 14.8	24.3
Average haul to Buenos Aires:			
1. Southern Ry	106.25	8.66	.....
2. Buenos Aires & Pacific Ry	194.00	12.14	.....
3. Central Argentine Ry	121.00	8.68	.....
4. Central of Cordoba Ry	122.00	9.53	.....
5. Buenos Aires & Western Ry	186.00	11.24	.....
Average to Buenos Aires	145.85	10.05	.....
Average for Argentina	140.04	9.96	.....
6. Buenos Aires to Liverpool	.....	[2] 13.8	23.8

[1] Rate in effect on November 19, 1923.
[2] Average rate for nine months, January to September, 1923; all conversions on the basis of average rate of exchange prevailing during these months.

TABLE 25.—*Freight rates on wheat in the United States, 1913 and 1923.*

[Interstate Commerce Commission.]

From—	To—	1913, per bushel.	1923, per bushel.	Per-centage increase 1923 over 1913.
		Cents.	*Cents.*	
Larimore, N. Dak.	Minneapolis, Minn.	7.2	10.5	46
Scobey, Mont.	Duluth, Minn.	15.6	22.5	44
Dodge City, Kans.	Kansas City, Mo.	8.7	12.3	41
McPherson, Kans.	....do....	7.6	11.4	49
McPherson (export)	Galveston, Tex.	15.6	27.0	73
Chicago (reshipping for export)	New York	7.8	13.5	73
Riparia, Wash.	Portland, Oreg.	9.0	12.9	43

TABLE 26.—*Ocean freight rates on wheat, 1913 and 1923.*

[International Institute of Agriculture.]

From—	To—	1913, average per bushel.	Aug. 3, 1923, per bushel.	1923, as per cent of 1913.
		Cents.	*Cents.*	
New York	Liverpool	6.0	4.2	70
Gulf ports	do		8.7	
Canada	United Kingdom	8.4	7.8	93
North Pacific	do	25.8	22.2	86
Argentina, down river	do	10.8	12.0	111
Karachi	do	12.0	15.0	125
Australia	do	20.4	19.8	97
Danube	do	6.6	9.6	145

TABLE 27.—*Canadian freight rates on wheat, 1913, 1920, and 1923.*

[Dominion Bureau of Statistics.]

To Fort William and Port Arthur—	1913, per bushel.[1]	Sept. 13, 1920, per bushel.[2]	1923, per bushel.[3]
From points in:			
Manitoba—	*Cents.*	*Cents.*	*Cents.*
Brandon	7.8	14.1	9.6
Portage la Prairie	7.2	12.9	9.0
Winnipeg	6.0	11.4	8.4
Virden	9.0	15.9	10.8
Saskatchewan—			
Broadview	9.6	17.4	10.8
Shelbrook	[4] 14.4	24.3	15.6
Regina	10.8	19.5	12.0
Saskatoon	14.4	22.8	14.4
Yorkton	10.2	18.3	11.4
Alberta—			
Athabasca	[4] 16.2	26.7	17.4
Calgary	14.4	24.3	15.6
Edmonton	16.8	24.3	15.6
Medicine Hat	13.2	22.8	14.4
Lethbridge	13.8	23.4	15.0

[1] Effective October 7, 1903.
[2] This rate continued in effect until January 1, 1921.
[3] Effective July 6, 1922.
[4] January 1, 1916.

TABLE 28.—*Wheat acreage and production, United States and Canada.*

[Division of Crop and Livestock Estimates, and Dominion Bureau of Statistics.]

PRODUCTION.

Country.	Average 1909–1913.	1919	1920	1921	1922	1923	Increase or decrease between 1909–1913 and 1923.	
							Amount.	Per cent.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	
United States	673,953	967,979	833,027	814,905	862,091	781,737	+107,784	+16.0
Canada	197,119	193,260	263,189	300,858	399,786	469,761	+272,642	+138.3

ACREAGE.

	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	
United States	47,097	75,694	61,143	63,696	61,230	58,253	+11,156	+23.7
Canada	9,945	19,126	18,232	23,261	22,423	22,170	+12,225	+122.9

TABLE 29.—*Wheat acreage and production, Prairie Provinces of Canada.*

[Dominion Bureau of Statistics.]

PRODUCTION.

Province.	Average 1909–1913.	1919	1920	1921	1922	1923	Per cent of total.	
							1909–1913	1923
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*		
Manitoba	53,174	40,975	37,542	39,054	60,051	36,481	27.0	7.8
Saskatchewan	97,954	89,994	113,135	188,000	250,167	252,622	49.7	53.8
Alberta	24,783	34,575	83,461	53,044	64,976	157,467	12.5	33.5
Total	175,911	165,544	234,138	280,098	375,194	446,570	89.2	95.1

ACREAGE.

	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*		
Manitoba	2,861	2,880	2,706	3,501	3,126	2,918	28.8	13.2
Saskatchewan	4,894	10,587	10,061	13,557	12,332	12,791	49.2	57.7
Alberta	1,201	4,283	4,074	5,123	5,766	5,956	12.1	26.8
Total	8,956	17,750	16,841	22,181	21,224	21,665	90.1	97.7

TABLE 30.—*Net exports of wheat, including flour in terms of wheat, from the United States and Canada, average 1909–1913, annual 1919–1922, years beinning July 1.*

[Foreign Commerce and Navigation of the United States, 1910 to 1913; Monthly Summary of the Foreign Commerce of the United States, June, 1919 to 1922; and Monthly Reports of the Trade of Canada.]

Country.	Average 1909–1913.	1919	1920	1921	1922	Per cent of crop exported.	
						1909–1913	1922
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*		
United States	103,159	214,369	308,679	262,155	201,978	15.3	23.4
Canada	93,879	98,051	168,922	179,448	274,505	47.6	68.7

TABLE 31.—*Wheat yields per acre, United States and Canada.*

[Division of Crop and Livestock Estimates, and Dominion Bureau of Statistics.]

Country and subdivision.	Ten year average, 1913–1922.				1923			
	All wheat.	Spring wheat.	Winter wheat.		All wheat.	Spring wheat.	Winter wheat.	
			Planted acreage.	Harvested acreage.			Planted acreage.	Harvested acreage.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
United States	14.4	12.4	13.9	15.4	13.4	11.5	12.3	14.3
Minnesota	13.3	13.2	15.6	17.3	12.5	12.3	13.6	16.0
North Dakota	10.6	10.6	.....	.....	7.1	7.1	.....	.....
South Dakota	11.5	11.4	13.0	15.4	9.5	9.5	7.2	12.0
Montana	15.3	14.3	14.2	17.0	15.2	15.0	14.0	17.0
Idaho	23.3	23.4	21.9	23.0	27.6	28.0	25.9	27.0
Washington	19.5	15.5	22.7	24.2	24.8	22.0	25.6	27.0
Oregon	19.8	15.6	21.2	21.4	24.1	21.0	24.3	25.0
Nebraska	15.9	12.1	14.6	16.2	10.3	9.0	8.4	10.5
Kansas	13.8	10.0	11.8	13.8	9.0	6.0	6.5	9.0
Colorado	18.2	19.2	13.9	18.1	14.8	15.5	9.7	14.5
Oklahoma	12.6	.....	11.7	12.6	11.0	.....	10.0	11.0
Texas	12.6	.....	10.8	12.6	10.5	.....	9.7	10.5
Canada	15.7	15.5	.....	23.0	20.7	20.5	.....	23.2
Manitoba	16.0	16.0	.....	.....	12.5	12.5	.....	.....
Saskatchewan	15.2	15.2	.....	.....	19.7	19.7	.....	.....
Alberta	15.1	15.0	.....	20.5	26.5	26.5	.....	22.0

TABLE 32.—*Value of farm land, United States and Canada, 1914–1922.*

[Division of Crop and Livestock Estimates, and Dominion Bureau of Statistics.]

Country and subdivision.	1914	1915	1916	1917	1918	1919	1920	1921	1922
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
United States[1]	64	64	69	68	75	81	99	94	79
Minnesota	66	70	75	83	87	94	124	126	110
North Dakota	33	34	37	39	41	43	50	50	46
South Dakota	57	58	60	63	66	80	110	106	87
Montana	38	35	34	35	37	39	42	35	25
Idaho	63	66	64	71	87	97	125	125	105
Washington	110	99	102	100	115	115	150	145	100
Oregon	80	75	70	82	104	95	120	135	100
Nebraska	74	71	76	80	92	105	135	120	90
Kansas	51	53	58	60	64	69	80	80	69
Colorado	65	65	60	62	64	66	75	75	70
Oklahoma	30	29	31	35	41	43	55	55	48
Texas	39	39	39	45	52	55	69	65	56
Canada[2]	37	35	36	38	41	46	48	40	40
Manitoba	32	30	32	31	32	35	39	35	32
Saskatchewan	24	24	23	26	29	32	32	29	28
Alberta	21	23	22	27	28	29	32	28	24

[1] "All land with improvements." [2] "All occupied farm land with improvements."

TABLE 33.—*Margins between the prices of hard spring wheat in the United States and Canada, September, 1920–October, 1923.*[1]

[Minneapolis Daily Market Record.]

Year and month.	Winnipeg No. 2 Northern.[2]	Duluth No. 1 Dark Northern.	Minneapolis No. 1 Dark Northern.	Margins American over Canadian prices.	
				Duluth.	Minneapolis.
1920.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
September	244	256	257	12	13
October					
November	174	168	167	−6	−7
December	164	169	171	5	7
1921.					
January	168	178	179	10	11
February	163	170	170	7	7
March	165	169	166	4	1
April	152	151	148	−1	−4
May	164	158	156	−6	−8
June	165	162	161	−3	−4
July	159	154	165	−5	6
August	135	148	148	13	13
September	128	154	152	26	24
October	103	134	134	31	31
November	99	128	128	29	29
December	99	130	130	31	31
1922.					
January	104	131	133	27	29
February	124	153	152	29	28
March	132	157	155	25	23
April	135	164	161	29	26
May	137	162	161	25	24
June	128	147	146	19	18
July	130	130	147		17
August	112	122	124	10	12
September	99	113	113	14	14
October	100	115	116	15	16
November	108	123	123	15	15
December	106	128	127	22	23
1923.					
January	106	122	124	16	18
February	108	123	126	15	18
March	109	123	125	14	16
April	118	129	130	11	12
May	114	126	126	12	12
June	111	114	115	3	4
July	103	108	109	5	6
August	106	116	116	10	10
September	99	123	118	24	19
October	94	124	126	30	32

[1] Prices are common averages of the mean of the range of daily closing prices. Only days on which prices for the three markets appeared were used.

[2] Conversions at current rate of exchange as reported by the Federal Reserve Board. Winnipeg prices on basis in store at Fort William and Port Arthur.

TABLE 34.—*Margins between wheat prices in the United States and Canada, July, 1909–October, 1923.*[1]

[Minneapolis Daily Market Record, Chicago Daily Trade Bulletin, Kansas City Grain Market Review.]

Year and month.	Prices per bushel.				Margins per bushel, American over Canadian prices.		
	Winnipeg No. 1 Northern.	Minneapolis No. 1 Northern Spring.	Kansas City No. 2 Hard Red Winter.	Chicago No. 2 Soft Red Winter.	Minneapolis.	Kansas City.	Chicago.
1909.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
July	131	129	114	110	−2	−17	−21
August	119	106	102	104	−13	−17	−15
September	100	104	102	107	4	2	7
October	97	104	106	120	7	9	23
November	97	105	104	118	8	7	21
December	98	112	110	125	14	12	27
1910.							
January	103	114	111	126	11	8	23
February	103	114	111	123	11	8	20
March	104	115	110	118	11	6	14
April	103	111	108	111	8	5	8
May	98	110	107	111	12	9	13
June	93	109	108	101	16	15	8
July	108	121	104	107	13	−4	−1
August	107	113	100	102	6	−7	−5
September	103	109	99	99	6	−4	−4
October	98	108	95	96	10	−3	−2
November	92	104	91	93	12	−1	1
December	90	103	93	94	13	3	4
1911.							
January	94	106	95	98	12	1	4
February	93	102	90	91	9	−3	−2
March	90	98	88	90	8	−2	0
April	90	96	88	90	6	−2	0
May	95	99	90	96	4	−5	1
June	97	97	88	91	0	−9	−6
July	95	99	87	86	4	−8	−9
August	101	105	93	90	4	−8	−11
September	101	109	95	93	8	−6	−8
October	100	110	104	100	10	4	0
November	99	105	100	96	6	1	−3
December	95	102	100	96	7	5	1
1912.							
January	95	106	105	97	11	10	2
February	97	106	103	101	9	6	4
March	98	108	105	103	10	7	5
April	101	110	109	109	9	8	8
May	104	116	111	116	12	7	12
June	106	113	109	110	7	3	4
July	107	109	92	105	2	−15	−2
August	106	98	89	103	−8	−17	−3
September	100	89	88	103	−11	−12	3
October	91	90	88	106	−1	−3	15
November	85	84	83	99	−1	−2	14
December	80	82	84	86	2	4	6
1913.							
January	82	89	87	109	7	5	27
February	84	87	86	99	3	2	15
March	85	85	86	95	0	1	10
April	89	88	88	102	−1	−1	13
May	93	91	87	103	−2	−6	10
June	96	92	88	100	−4	−8	4
July	97	91	82	87	−6	−15	−10
August	95	88	83	88	−7	−12	−7
September	89	87	87	93	−2	−2	4
October	81	84	84	92	3	3	11
November	83	85	83	92	2	0	9
December	84	86	84	94	2	0	10

[1] United States prices, weighted daily average; Canadian, daily closing.

TABLE 34.—*Margins between wheat prices in the United States and Canada, July, 1909–October, 1923*—Continued.

Year and month.	Prices per bushel.				Margins per bushel, American over Canadian prices.		
	Winnipeg No. 1 Northern.	Minneapolis No. 1 Northern Spring.	Kansas City No. 2 Hard Red Winter.	Chicago No. 2 Soft Red Winter.	Minneapolis.	Kansas City.	Chicago.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1914.							
January	85	87	85	97	2	0	12
February	88	93	86	97	5	−2	9
March	90	92	88	95	2	−2	5
April	90	91	87	95	1	−3	5
May	93	94	90	99	1	−3	6
June	94	92	85	82	−2	−9	−12
July	90	92	77	82	2	−12	−8
August	108	110	91	92	2	−17	−16
September	113	112	104	111	−1	−9	−2
October	111	111	102	112	0	−9	1
November	118	118	108	115	0	−10	−3
December	118	120	113	120	2	−5	2
1915.							
January	136	138	134	139	2	−2	3
February	153	152	154	157	−1	1	4
March	149	149	149	152	0	0	3
April	157	158	154	159	1	−3	2
May	161	158	150	155	−3	−11	−6
June	132	135	121	124	3	−11	−8
July	135	144	136	113	9	1	−22
August	125	118	126	111	−7	1	−14
September	95	97	107	108	2	12	13
October	96	102	107	112	6	11	16
November	102	102	103	112	0	1	10
December	107	114	112	123	7	5	16
1916.							
January	122	129	120	130	7	−2	8
February	126	126	120	123	0	−6	−3
March	110	114	105	113	4	−5	3
April	115	122	112	122	7	−3	7
May	117	122	110	115	5	−7	−2
June	111	111	100	105	0	−11	−6
July	118	121	114	123	3	−4	5
August	149	164	141	143	15	−8	−6
September	159	164	157	153	5	−2	−6
October	172	179	167	166	7	−5	−6
November	193	195	185	185	2	−8	−8
December	176	179	172	176	3	−4	0
1917.							
January	180	193	189	189	13	9	9
February	168	186	182	174	18	14	6
March	185	203	197	199	18	12	14
April	233	238	243	243	5	10	10
May	275	296	301	294	21	26	19
June	249	273	275	276	24	26	27
July	234	266	268	250	32	34	16
August	240	247	261	230	7	21	−10
September	225	217	212	217	−8	−13	−8
October	221	217	212	217	−4	−9	−4
November	221	217	212	217	−4	−9	−4
December	221	217	212	217	−4	−9	−4
1918.							
January	221	217	212	217	−4	−9	−4
February	221	217	212	217	−4	−9	−4
March	221	217	212	217	−4	−9	−4
April	221	217	212	217	−4	−9	−4
May	221	217	212	216	−4	−9	−5
June	221	217	(2)	217	−4	.....	−4
July	221	217	220	222	−4	−1	1
August	221	223	216	221	2	−5	0
September	224	223	216	223	−1	−8	−1
October	224	219	216	225	−5	−8	1
November	224	222	215	224	−2	−9	0
December	224	222	224	229	−2	0	5

[2] No sales.

TABLE 34.—*Margins between wheat prices in the United States and Canada, July, 1909–October, 1923*—Continued.

Year and month.	Prices per bushel.				Margins per bushel, American over Canadian prices.		
	Winnipeg No. 1 Northern.	Minneapolis No. 1 Northern Spring.	Kansas City No. 2 Hard Red Winter.	Chicago No. 2 Soft Red Winter.	Minneapolis.	Kansas City.	Chicago.
1919.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	224	221	231	234	−3	7	10
February	224	224	226	228	0	2	4
March	224	236	239	236	12	15	12
April	224	256	262	252	32	38	28
May	224	259	260	276	35	36	52
June	224	248	247	232	24	23	8
July	216	266	225	223	50	9	7
August	215	259	218	224	44	3	9
September	207	256	224	224	49	17	17
October	207	267	230	224	60	23	17
November	206	285	246	229	79	40	23
December	200	307	263	244	107	63	44
1920.							
January	196	301	282	264	105	86	68
February	189	267	242	242	78	53	53
March	193	284	249	255	91	56	62
April	196	306	275	263	110	79	67
May	194	309	293	310	115	99	116
June	189	293	276	289	104	87	100
July	190	289	267	259	99	77	69
August	205	256	244	250	51	39	45
September	245	254	243	253	9	−2	8
October	211	216	206	220	5	−5	9
November	184	180	178	201	−4	−6	17
December	167	168	171	202	1	4	35
1921.							
January	171	179	172	194	8	1	23
February	166	172	162	185	6	−4	19
March	168	166	155	165	−2	−13	−3
April	157	153	133	141	−4	−24	−16
May	167	155	147	167	−12	−20	0
June	169	169	138	147	0	−31	−22
July	164	167	114	124	3	−50	−40
August	156	148	115	122	−8	−41	−34
September	133	151	122	129	18	−11	−4
October	104	134	110	118	30	6	14
November	102	125	110	123	23	8	21
December	105	130	109	118	25	4	13
1922.							
January	108	134	113	121	26	5	13
February	131	151	129	134	20	−2	3
March	137	151	134	138	14	−3	1
April	140	158	135	140	18	−5	0
May	144	156	134	134	12	−10	−10
June	131	146	117	118	15	−14	−13
July	135	149	113	114	14	−22	−21
August	117	111	104	107	−6	−13	−10
September	99	110	104	106	11	5	7
October	101	115	113	118	14	12	17
November	110	123	117	127	13	7	17
December	108	125	117	133	17	9	25
1923.							
January	107	123	115	130	16	8	23
February	110	126	115	135	16	5	25
March	110	124	116	131	14	6	21
April	119	131	120	132	12	1	13
May	115	128	116	128	13	1	13
June	112	117	104	116	5	−8	4
July	105	112	96	100	7	−9	−5
August	110	118	101	100	8	−9	−10
September	104	121	109	105	17	5	1
October	98	120	112	111	22	14	13

TABLE 35.—*Margins between wheat prices at Minneapolis and Kansas City, 1911–1913, 1921–1923.*

[Minneapolis Daily Market Record, Kansas City Grain Market Review.]

Month.	Prices per bushel.[1]				Margins per bushel.	
	1911		1921		1911	1921
	Minneapolis No. 1 Northern Spring.	Kansas City No. 2 Hard Red Winter.	Minneapolis No. 1 Northern Spring.	Kansas City No. 2 Hard Red Winter.	Minneapolis over Kansas City.	
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	106	95	179	172	11	7
February	102	90	172	162	12	10
March	98	88	166	155	10	11
April	96	88	153	133	8	20
May	99	90	155	147	9	8
June	97	88	169	138	9	31
July	99	87	167	114	12	53
August	105	93	148	115	12	33
September	109	95	151	122	14	29
October	110	104	134	110	6	24
November	105	100	125	110	5	15
December	102	100	130	109	2	21
	1912		1922		1912	1922
January	106	105	134	113	1	21
February	106	103	151	129	3	22
March	108	105	151	134	3	17
April	110	109	158	135	1	23
May	116	111	156	134	5	22
June	113	109	146	117	4	29
July	109	92	149	113	17	36
August	98	89	111	104	9	7
September	89	88	110	104	1	6
October	90	88	115	113	2	2
November	84	83	123	117	1	6
December	82	84	125	117	−2	8
	1913		1923		1913	1923
January	89	87	123	115	2	8
February	87	86	126	115	1	11
March	85	86	124	116	−1	8
April	88	88	131	120	0	11
May	91	87	128	116	4	12
June	92	88	117	104	4	13
July	91	82	112	96	9	16
August	88	83	118	101	5	17
September	87	87	121	109	0	12
October	84	84	120	112	0	8
November	85	83	.....	.....	2	.....
December	86	84	.....	.....	2	.....

[1] Weighted daily average prices.

TABLE 36.—*Monthly average spot prices of wheat in Liverpool, June, 1921–August, 1923.*[1]

[Broomhall's Corn Trade News.]

Year and month.	No. 1 Northern Manitoba per bushel.	No. 2 Hard Winter (American) per bushel.	Margin of Canadian over American winter wheat, per bushel.
1921.	*Cents.*	*Cents.*	*Cents.*
June	210.5	201.6	9.9
October	136.4	126.4	10.0
November	134.6	124.8	9.8
December	146.8	135.2	11.6
1922.			
January	145.1	.....	.....
February	169.9	.....	.....
March	179.1	.....	.....
April	171.1	157.4	13.7
May	170.9	158.3	12.6
June	157.7	143.3	14.4
July	165.5	148.9	16.6
August	159.3	141.3	18.0
September	148.3	130.0	18.3
October	157.7	142.2	15.5
November	146.1	152.1	−6.0
December	148.1	154.3	−6.2
1923.			
January	145.9	141.8	4.1
February	143.7	141.2	2.5
March	142.0	140.3	1.7
April	148.3	145.6	2.7
May	150.4	.....	.....
June	142.1	.....	.....
July	133.9	.....	.....
August	135.4	126.0	9.4
September	141.8	.....	.....

[1] Monthly averages for days on which prices for both classes of wheat were quoted. Daily quotations converted at exchange of the day.

TABLE 37.—*Winnipeg price of wheat plus freight, compared with the spot price of wheat in Liverpool, January, 1922–September, 1923.*

[Division of Statistical and Historical Research.]

Year and month.	Price per bushel of No. 1 Northern in Winnipeg.	Freight rate per bushel.		Winnipeg price plus freight.	Price of No. 1 Northern Manitoba in Liverpool.[3]	Liverpool margin.
		Port Arthur to New York, all rail.[1]	New York to Liverpool.[2]			
1922.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	108	21.3	9.3	138.6	145.1	6.5
February	131	21.3	9.8	162.1	169.9	7.8
March	137	21.3	9.6	167.9	179.1	11.2
April	140	21.3	5.0	166.3	171.1	4.8
May	144	21.3	5.4	170.7	170.9	.2
June	131	21.3	5.3	157.6	157.7	.1
July	135	21.3	5.8	162.1	165.5	3.4
August	117	21.3	5.6	143.9	159.3	15.4
September	99	21.3	4.3	124.6	148.3	23.7
October	101	21.3	4.8	127.1	157.7	30.6
November	110	21.3	8.4	139.7	146.1	6.4
December	108	21.3	7.6	136.9	148.1	11.2
1923.						
January	107	21.3	5.6	133.9	145.9	12.0
February	110	21.3	4.7	136.0	143.7	7.7
March	110	21.3	5.6	136.9	142.0	5.1
April	119	21.3	6.2	146.5	148.3	1.8
May	115	21.3	4.8	141.1	150.4	9.3
June	112	21.3	4.3	137.6	142.1	4.5
July	105	21.3	4.3	130.6	138.9	8.3
August	110	21.3	4.3	135.6	135.4	−.2
September	104	21.3	4.3	129.6	141.8	12.2

[1] Interstate Commerce Commission. Rail-water rate somewhat lower.
[2] International Institute of Agriculture.
[3] Broomhall's Corn Trade News.

TABLE 38.—*Kansas City price of wheat plus freight, compared with the spot price of wheat in Liverpool, April, 1922–September, 1923.*

[Division of Statistical and Historical Research.]

Year and month.	Price per bushel of No. 2 Hard Winter in Kansas City.	Freight rate per bushel.		Kansas City price plus freight.	Price of No. 2 Hard Winter in Liverpool.	Liverpool margin
		Kansas City to New Orleans.	New Orleans to Liverpool.			
1922.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
April	134.9	18.3	10.8	164.0	157.4	—6.6
May	133.6	18.3	11.4	163.3	158.3	—5.0
June	117.0	18.3	11.0	146.3	143.3	—3.0
July	112.7	18.3	9.4	140.4	148.9	8.5
August	104.3	18.3	9.2	131.8	141.3	9.5
September	104.5	18.3	8.9	131.7	130.0	—1.7
October	113.3	18.3	8.4	140.0	142.2	2.2
November	117.4	18.3	11.0	146.7	152.1	5.4
December	117.4	18.3	11.0	146.7	154.3	7.6
1923.						
January	114.5	18.3	8.7	141.5	141.8	.3
February	115.1	18.3	8.8	142.2	141.2	—1.0
March	115.6	18.3	8.8	142.7	140.3	—2.4
April	120.4	18.3	8.7	147.4	145.6	—1.8
May	116.2	18.3	8.7	143.2	.....	.....
June	104.2	18.3	8.7	131.2	.....	.....
July	95.8	18.3	8.6	122.7	.....	.....
August	100.6	18.3	8.6	127.5	126.0	—1.5
September	109.1	18.3	8.5	135.9	.....	.....

TABLE 39.—*Chicago price of wheat plus freight, compared with the spot price of wheat in Liverpool.*

[Division of Statistical and Historical Research.]

Year and month.	Price per bushel of No. 2 Red Winter in Chicago.	Freight rate per bushel.		Chicago price plus freight.	Price of No. 2 Red Winter in Liverpool.	Liverpool margin.
		Chicago to New York.	New York to Liverpool.			
1923.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	130.1	13.5	5.6	149.2	145.8	—3.1
February	135.0	13.5	4.7	153.2	145.6	—9.4
March	131.0	13.5	5.6	150.1	.....	.....
April	132.4	13.5	6.2	152.1	.....	.....
May	128.2	13.5	4.8	146.5	.....	.....
June	115.5	13.5	4.3	133.3	.....	.....
July	99.6	13.5	4.3	117.4	.....	.....
August	100.2	13.5	4.3	118.0	.....	.....
September	105.2	13.5	4.3	123.0	122.4	—.6

TABLE 40.—*Minneapolis price of wheat plus freight, compared with the spot price of wheat in Liverpool.*

[Division of Statistical and Historical Research.]

Year and month.	Price per bushel of No. 2 Dark Northern Spring in Minneapolis.	Freight rate per bushel.		Minneapolis price plus freight.	Price of No. 2 Dark Northern Spring in Liverpool.	Liverpool margin.
		Minneapolis to New York.	New York to Liverpool.			
1923.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
January	123.3	21.3	5.6	150.2	138.5	−11.7
February	124.3	21.3	4.7	150.3	136.6	−13.7
March	123.9	21.3	5.6	150.8	135.4	−14.5
April	130.0	21.3	6.2	157.5	145.8	−11.7
May	124.9	21.3	4.8	151.03	145.3	−5.7
June	115.5	21.3	4.3	141.13	137.9	−3.4
July	111.5	21.3	4.3	137.10	.....	.....
August	117.6	21.3	4.3	143.18	.....	.....
September[1]	122.7	21.3	4.3	148.26	.....	.....

[1] 28-day average.

TABLE 41.—*Imports of wheat into the United States and transit movement of wheat from Canada through the United States, 1913–1923.*

[Bureau of Foreign and Domestic Commerce.]

Calendar year.	Total United States imports.	Imports from Canada.	Transit movement.	Calendar year.	Total United States imports.	Imports from Canada.	Transit movement
	Bushels.	*Bushels.*	*Bushels.*		*Bushels.*	*Bushels.*	*Bushels.*
1913	783,335	731,905	70,663,152	1919	7,910,701	5,345,275	17,355,837
1914	1,714,130	1,644,568	47,412,576	1920	35,808,656	34,956,811	25,779,160
1915	4,052,001	4,020,669	85,053,533	1921	23,286,024	23,285,893	65,016,919
1916	8,571,509	8,221,551	126,942,191	1922	22,642,709	22,642,059	97,309,852
1917	33,583,109	32,609,580	79,639,793	1923(8 months)	7,118,528	7,118,517	74,075,275
1918	17,035,986	10,338,109	24,148,783				

TABLE 42.—*Movement of Canadian wheat to the United States, June 1, 1921–June 30, 1923.*

[Bureau of Foreign and Domestic Commerce.]

Year.	Total imports from Canada.	Imports for consumption (duty paid).	Imports on which drawback was allowed.	Imports under milling-in-bond provision.	Percentage of imports milled in bond.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	
1921 (June 1–Dec. 31)	5,239,075	3,044,257	4,638	2,190,180	42
1922 (Jan. 1–Dec. 31)	22,642,059	12,215,623	.....	10,426,436	46
1923 (Jan. 1–June 30)	4,686,530	1,849,522	.....	2,837,008	61
Total	32,567,664	17,109,402	4,638	15,453,624	.....

TABLE 43.—*Mortgage debt on owner-operated farms, 1910–1920.*

[Bureau of the Census.]

State or region.	Number of farms operated by owners (per cent of all farms).		Average size of owner-operated farms.		Per cent of owner-operated farms mortgaged.		Average debt per farm.		Average debt per acre.	
	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920
	Perct.	*Perct.*	*Acres.*	*Acres.*	*Perct.*	*Perct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
United States	62.1	60.9	151.6	162.2	33.2	37.2	1,715	3,356	11.31	20.69
Corn Belt:										
Ohio	70.6	69.3	83.5	84.3	28.6	28.5	1,491	2,812	17.86	33.36
Indiana	68.9	66.9	93.9	93.8	38.3	37.5	1,433	2,604	15.26	27.76
Illinois	57.6	55.9	122.6	122.7	38.4	38.5	3,135	5,379	25.57	43.84
Iowa	61.3	57.1	152.0	148.1	51.2	54.2	4,048	9,358	26.63	63.19
Missouri	69.4	70.4	131.0	133.4	46.0	46.2	1,758	3,147	13.42	23.59
Total	65.7	64.2	114.9	115.1	40.0	40.4	2,364	4,683	20.57	40.69
Western winter wheat region:										
Nebraska	61.1	56.0	340.4	379.2	38.9	50.5	3,154	7,025	9.27	18.53
Kansas	62.5	58.7	259.6	282.0	44.3	45.4	2,326	4,083	8.96	14.48
Texas	46.9	46.1	353.3	339.2	32.7	34.8	1,584	2,984	4.48	8.80
Oklahoma	44.9	48.6	187.3	198.2	42.2	50.4	1,114	2,157	5.95	10.88
Colorado	80.1	75.6	274.0	411.2	26.0	46.7	2,508	3,980	9.15	9.68
Total	52.9	51.8	297.2	314.2	37.3	42.9	1,960	3,704	6.59	11.79
Spring wheat region:										
Minnesota	78.2	74.4	169.3	158.3	46.0	52.4	1,864	4,419	11.01	27.92
North Dakota	85.0	73.3	373.1	471.7	50.2	71.1	2,493	4,786	6.68	10.15
South Dakota	74.7	64.1	333.1	505.5	37.4	57.0	2,897	6,402	8.70	12.66
Montana	89.1	87.2	455.4	575.9	20.6	59.5	2,692	3,669	5.91	6.37
Total	79.8	74.1	278.3	351.0	42.9	58.1	2,219	4,594	7.97	13.09
Pacific Northwest wheat region:										
Idaho	88.2	82.3	163.7	196.2	33.2	57.9	1,917	4,076	11.71	20.77
Washington	84.5	79.5	191.9	175.7	33.7	45.5	2,017	3,134	10.51	17.84
Oregon	83.1	79.4	239.1	251.3	33.4	44.8	2,060	3,622	8.62	14.41
Total	84.9	80.2	200.9	205.0	33.5	48.7	2,007	3,588	9.99	17.50

TABLE 44.—*The financial condition of farmers in the wheat-producing regions, January, 1920, to March, 1923.*

[Special inquiry by Department of Agriculture.]

State or region.	Farmers who lost farms or property through foreclosure or bankruptcy.	Farmers who lost farms or property without foreclosure or bankruptcy.	All farmers who lost farms or property.	Farmers who retained farms or property through leniency of creditors.	Lost farms or property through unwise investments.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Total (15 States)	4.74	5.34	10.08	16.28	0.46
Eastern winter wheat region:					
Ohio	2.72	3.82	6.54	8.08	0.60
Indiana	3.25	4.24	7.49	13.26	.36
Illinois	3.19	4.05	7.24	16.87	.38
Iowa	4.85	5.93	10.78	14.93	.62
Missouri	3.81	5.95	9.76	20.06	.41
Total	3.54	4.80	8.34	14.68	.47
Western winter wheat region:					
Kansas	4.15	4.76	8.90	14.67	.49
Nebraska	5.98	4.88	10.86	17.21	.87
Colorado	7.68	8.41	16.09	26.14	1.06
Total	5.40	5.42	10.83	17.53	.72
Spring wheat region:					
Minnesota	6.41	4.56	10.97	15.95	.28
North Dakota	10.36	7.05	17.41	33.13	.60
South Dakota	7.77	8.02	15.79	23.71	.52
Montana	16.78	11.53	28.30	33.37	.22
Wyoming	5.89	7.65	13.54	37.33	2.05
Total	8.87	6.78	15.66	23.98	.45
Dairy region:					
Wisconsin	3.37	4.68	8.05	10.32	.19
Michigan	3.52	6.11	9.63	13.51	.19
Total	3.45	5.41	8.85	11.94	.19

TABLE 45.—*Bankruptcy cases of farmers, average 1911-1913, annual 1919-1921, years beginning July 1.* (1)

[Annual reports of the Attorney General.]

State or region.	Average, 1911-1913.		1919		1920		1921	
	Number.	Per cent of all cases.	Number.	Per cent of all cases.	Number.	Per cent of all cases.	Number.	Per cent of all cases.
United States	941	5.5	997	6.4	1,363	9.0	3,236	14.4
Corn belt:								
Ohio	26	3.1	18	3.0	23	5.0	64	9.4
Indiana	18	6.4	12	8.7	16	12.9	59	24.1
Illinois	33	2.5	29	2.7	11	1.6	81	8.0
Iowa	70	21.5	36	18.6	75	27.3	368	52.3
Missouri	12	2.6	25	4.9	22	7.3	61	15.1
Total	159	4.9	120	4.7	147	7.9	633	20.8
Western winter wheat region:								
Kansas	17	8.1	31	19.6	45	21.3	113	34.5
Nebraska	14	1.1	11	9.3	8	9.3	60	32.6
Oklahoma	19	6.2	13	9.4	13	10.2	38	15.8
Texas	34	7.6	57	24.2	82	21.4	122	19.4
Colorado	24	9.0	18	12.8	48	22.6	77	30.9
Total	108	8.0	130	16.4	196	19.2	410	25.2
Spring wheat region:								
Minnesota	30	7.1	42	7.9	57	11.9	189	29.0
North Dakota	84	52.2	50	38.5	93	63.7	237	78.5
South Dakota	29	29.6	18	13.7	24	31.6	38	52.1
Montana	38	25.7	63	35.4	82	36.3	215	59.2
Total	181	21.9	173	17.8	256	27.6	679	48.9
Pacific Northwest:								
Idaho	10	18.5	12	14.0	19	23.8	79	46.7
Washington	25	7.5	20	6.7	29	11.1	49	13.0
Oregon	20	7.0	7	3.4	11	2.7	33	8.9
Total	55	8.2	39	6.6	59	7.9	161	17.6

(1) Concluded in fiscal years.

TABLE 46.—*Increase in delinquent taxes, Kansas, 1917-1922.*

[Data supplied by Professor Englund, Kansas State Agricultural College.]

[1917 delinquent taxes=100 per cent.]

Divisions of the State.	1917	1918	1919	1920	1921	1922	Number of counties or parts of counties.	
							In division.	Reporting in table.
Northeastern, general farming	100	122	141	222	343	264	19	7
Southeastern, general farming	100	113	68	82	98	271	20	3
Flint Hills, grazing	100	120	121	126	433	742	10	2
Central, wheat farming	100	153	161	219	489	570	54	10
Western, grazing	100	133	215	275	417	468	16	5

TABLE 47.—*Index numbers of farm price of wheat and of costs of important factors of production and marketing in the United States, 1913–1923.*

[Bureau of Agricultural Economics; implement prices from International Harvester Co. of America.]

Year.	Average farm price of wheat [1] per bushel.	Monthly wages of farm labor without board.	Wholesale prices of 13 representative farm implements.	Binder twine.	Value of all land per acre with improvements.	Freight rates.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	121	99	101	102	105	99
1915	122	99	105	105	105	100
1916	172	108	110	132	113	101
1917	260	133	131	193	111	101
1918	258	155	178	232	122	117
1919	274	186	188	226	133	131
1920	236	214	196	175	161	147
1921	131	143	185	140	153	177
1922	112	138	152	114	129	160
1923	116	[2]	154	123	122	.....

[1] 1913–1921: Average of prices from July to June; 1922-23 prices for October 1.
[2] 1923 wage index: January 133, April 140, July 159, October 154.

TABLE 48.—*Index numbers of farm price of wheat and costs of important factors of production and marketing in Kansas and North Dakota, 1913–1923.*

[Bureau of Agricultural Economics; implement prices from International Harvester Co. of America.]

Year.	Winter wheat (Kansas).						
	Average farm price of wheat.[1]	Monthly wages of farm labor without board.	Wholesale prices 13 representative farm implements.	Binder twine average, United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with improvements.	Freight rates from McPherson, to Kans., City, Mo.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100	100
1914	118	104	101	102	100	102	100
1915	124	107	105	105	100	106	100
1916	177	113	110	132	100	116	100
1917	273	136	131	193	150	120	100
1918	256	167	178	232	150	128	125
1919	276	194	188	226	200	138	125
1920	222	230	196	175	200	160	169
1921	132	150	185	140	160	160	169
1922	110	139	152	114	150	138	149
1923	122	[2]	154	123	150	136	.....

Year.	Spring wheat (North Dakota).						
	Average farm price of wheat.[1]	Monthly wages of farm labor without board.	Wholesale prices 13 representative farm implements.	Binder twine average United States prices.	Threshing rate (shock threshing bundle grain).	Value of all land with improvements.	Freight rates from Larimore, N. Dak., to Minneapolis, Minn.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100	100
1914	136	106	101	102	100	106	100
1915	124	107	105	105	100	110	100
1916	189	111	110	132	100	119	100
1917	265	141	131	193	150	126	100
1918	273	169	178	232	150	132	125
1919	311	187	188	226	200	139	125
1920	240	228	196	175	200	161	171
1921	137	142	185	140	160	161	171
1922	111	131	152	114	150	148	146
1923	121	[2]	154	123	150	135	.....

[1] 1913–1921 indices are average of prices from July to June; 1922–1923 are for Oct. 1.
[2] 1923 wage index, Kansas: January, 132; April, 142; July, 146; October, 151. North Dakota: January, 101; April, 125; July, 144; October, 147.

TABLE 49.—*Wages of male farm labor per month, and per day at harvest, without board, 1913–1923.*

[Division of Crop and Livestock Estimates.]

FARM WAGES.

Year.	Ohio.		Illinois.		Kansas.		North Dakota.		Washington.	
	Per month.	Per day.	Per month.	Per day.	Per month.	Per day.	Per month.	Per day.	Per month.	Per day.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
1913	32.20	2.23	33.30	2.33	33.70	2.48	42.50	3.35	48.40	2.90
1914	31.80	2.21	33.00	2.25	35.10	2.71	45.10	3.25	48.40	2.75
1915	32.40	2.22	34.00	2.27	36.10	2.60	45.50	3.45	48.00	2.80
1916	36.60	2.47	36.50	2.50	38.10	2.80	47.00	3.50	52.60	2.95
1917	43.00	2.95	44.00	3.15	46.00	3.40	60.00	4.35	66.00	3.60
1918	49.70	3.67	52.00	4.12	56.40	4.65	72.00	5.50	85.00	4.75
1919	56.20	4.22	58.50	4.63	65.50	6.05	79.30	5.85	91.00	5.40
1920	66.50	4.95	68.40	5.20	77.50	6.75	97.00	7.40	104.00	6.15
1921	46.00	3.32	49.40	3.44	50.70	4.70	60.20	4.75	68.00	4.00
1922	46.50	3.28	45.00	3.30	46.70	4.10	55.50	4.85	65.00	3.90
1923 [1]	.....	3.50	.....	3.70	.....	4.50	.....	4.70	.....	5.75
January	45.00	.....	45.00	.....	44.60	.....	43.00	.....	65.00	.....
April	48.00	.....	50.00	.....	48.00	.....	53.00	.....	68.00	.....
July	53.50	.....	55.00	.....	49.30	.....	61.00	.....	77.00	.....
October	55.00	.....	53.00	.....	51.00	.....	62.30	.....	82.70	.....

INDEX NUMBERS OF FARM WAGES.

	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
1909–1913	100	100	100	100	100	100	100	100	100	100
1913	107	106	102	104	99	100	100	106	100	106
1914	106	105	101	100	103	110	107	103	100	101
1915	108	105	105	101	106	105	108	109	99	103
1916	122	117	112	111	112	113	111	110	109	108
1917	143	140	135	140	135	138	142	137	136	132
1918	166	174	160	183	166	188	170	174	175	174
1919	187	200	180	206	192	245	188	185	188	198
1920	221	235	210	231	228	273	229	233	215	225
1921	153	157	152	153	149	190	142	150	140	147
1922	155	155	138	147	137	166	131	153	134	143
1923 [1]	.....	166	.....	164	.....	182	.....	148	.....	211
January	139	.....	135	.....	132	.....	101	.....	134	.....
April	149	.....	150	.....	142	.....	125	.....	140	.....
July	166	.....	165	.....	146	.....	144	.....	159	.....
October	170	.....	159	.....	151	.....	147	.....	171	.....

[1] The 1923 wage per day at harvest is subject to revision.

TABLE 50.—*Index numbers of Chicago prices to dealers for representative farm implements, 1913–1923.*[1]

[Price data furnished by International Harvester Co. of America.]

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Group of 13 representative farm implements [2]	100	101	105	110	131	178	188	196	185	152	154
Grain binder (6-foot with bundle carrier)	100	100	100	105	126	174	174	164	171	145	145
Grain drill (12 by 7, single disk)	100	100	100	102	126	169	169	169	173	147	146
Corn planter (with 80 rods wire)	100	100	99	107	135	176	176	176	173	156	157
Corn binder (with bundle carrier)	100	100	100	105	126	174	174	164	171	145	145
Mowers (5-foot, plain lift)	100	103	103	108	132	184	184	176	186	159	159

[1] F. o. b.

[2] The group includes one each of the following implements: grain binder, mower, self-dump hay rake, hay loader, corn planter, corn binder, ensilage cutter, grain drill, disk harrow, spring-tooth harrow, spike-tooth harrow, cream separator, standard 3¼-inch wagon.

TABLE 51.—*Chicago prices to dealers for five representative farm implements, 1913–1923.*[1]

Implement.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Grain binder (6-foot with bundle carrier)	95.43	95.43	95.43	100.09	120.25	166.25	166.25	156.75	163.40	138.70	138.70
Grain drill (12 by 7, single disk)	54.40	54.40	54.40	55.33	68.40	92.15	92.15	92.15	94.05	79.80	79.56
Corn planter (with 80 rods wire)	31.62	31.62	31.15	33.72	42.75	55.57	55.57	55.57	54.86	49.40	49.64
Corn binder (with bundle carrier)	95.43	95.43	95.43	100.09	120.25	166.25	166.25	156.75	163.40	138.70	138.70
Mower (5-foot, plain lift)	33.52	34.45	34.45	36.31	44.40	61.75	61.75	58.90	62.46	53.20	53.20

[1] F. o. b.

TABLE 52.—*Tax per acre and percentage increase on farm land in Kansas for 1913, 1919, and 1921. (General property tax.)*

[Compiled from the Fourth, Seventh, and Eighth Biennial Reports of the State Tax Commission of Kansas.]

Area.	Tax per acre.[1]			Increase.		
	1913	1919	1921	1913–1919	1913–1921	1919–1921
	Dollars.	*Dollars.*	*Dollars.*	*Per cent.*	*Per cent.*	*Per cent.*
84 eastern counties [2]	0.24	0.39	0.54	63	125	39
21 western counties [3]	.04	.12	.21	200	425	75
All counties	.17	.33	.46	94	171	39
McPherson County	.22	.55	.57	150	159	4
Thomas County	.08	.14	.17	75	113	21

[1] Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922, respectively.
[2] All counties not listed in note 3 are included in the eastern division.
[3] The counties included in the western division are: Cheyenne, Finney, Gove, Grant, Gray, Greeley, Hamilton, Haskell, Kearney, Lane, Logan, Morton, Rawlins, Scott, Seward, Sherman, Stanton, Stevens, Thomas, Wallace, Wichita.

TABLE 53.—*Analysis of taxes levied on farm land in Kansas for 1913, 1919, and 1921. (General property tax.)*

Area.	Year.	Distribution.					
		State.	County.	Township.	School.	Drainage.	Total.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
84 eastern counties	1913	17.2	35.0	18.7	28.3	0.8	100.0
	1919	16.8	41.6	16.0	25.0	.6	100.0
	1921	18.0	38.5	14.4	28.6	.5	100.0
21 western counties	1913	13.4	40.[illegible]	8.5	38.0	.0	100.0
	1919	12.1	45.[illegible]	8.5	34.4	.0	100.0
	1921	12.5	35.[illegible]	9.1	42.5	.0	100.0
All counties	1913	16.9	35.[illegible]	18.1	28.9	.8	100.0
	1919	16.5	41.8	15.5	25.6	.6	100.0
	1921	17.6	38.3	14.0	29.6	.5	100.0

TABLE 54.—*Tax per acre and percentage increase on agricultural land outside of incorporated places in South Dakota for 1913, 1919, and 1921. (General property tax.)*

[Compiled from 1914 State Auditor's Report, vol. 2, and the Annual Reports of State Tax Commission for the years 1914, 1920, and 1921–22.]

Area.	Tax per acre.[1]			Increase.		
	1913	1919	1921	1913–1919	1913–1921	1919–1921
	Dollars.	*Dollars.*	*Dollars.*	*Per cent.*	*Per cent.*	*Per cent.*
37 eastern counties [2]	0.30	0.79	0.77	163	156	−3
32 western counties [3]	.15	.33	.33	120	120	0
All counties	.24	.54	.55	125	129	2

[1] Tax levies of 1913, 1919, and 1921 for payment in 1914, 1920, and 1922, respectively.
[2] The counties included in the eastern division are: Aurora, Beadle, Bon Homme, Brookings, Brown, Charles Mix, Clark, Clay, Codington, Davison, Day, Deuel, Douglas, Edmunds, Faulk, Grant, Gregory, Hamlin, Hand, Hanson, Hutchinson, Jerauld, Kingsbury, Lake, Lincoln, McCook, McPherson, Marshall, Miner, Minnehaha, Moody, Roberts, Sanborn, Spink, Turner, Union, and Yankton.
[3] All counties not listed in note 2 are included in the western division.

TABLE 55.—*Analysis of taxes levied on agricultural land outside incorporated places in South Dakota, 1913, 1919, and 1921. (General property tax.)*

Area.	Year.	Distribution.					
		State.	County.	Township.	School.	Miscellaneous.	Total.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
37 eastern counties	1913	13.4	33.0	14.2	38.4	1.0	100.0
	1919	16.9	37.0	11.1	35.0	.0	100.0
	1921	12.9	27.0	10.4	49.7	.0	100.0
32 western counties	1913	8.1	43.3	7.0	40.6	1.0	100.0
	1919	11.2	41.5	5.7	41.6	.0	100.0
	1921	7.6	38.9	5.6	47.9	.0	100.0
All counties	1913	11.8	36.2	12.0	39.0	1.0	100.0
	1919	15.3	38.3	9.6	36.8	.0	100.0
	1921	11.3	30.7	9.0	49.0	.0	100.0

TABLE 56.—*Estimated tax per acre and percentage increase on improved farm land for the east-side counties of Washington, by districts, 1914 and 1921. (General property tax.)*

[Compiled from Third Biennial Report of State Tax Commission of Washington.]

Areas.	Tax per acre.[1]		Increase, 1914–1921.
	1914	1921	
	Dollars.	*Dollars.*	*Per cent.*
Big Bend (5 counties) [2]	0.19	0.63	232
Northeast counties (4 counties) [3]	.49	1.36	178
Palouse area (6 counties) [4]	.37	1.24	235
Central counties (5 counties) [5]	.92	3.88	322
Average east-side (20 counties)	.35	1.18	237

[1] Owing to the lack of complete data, the assessed value of improved agricultural land reported in 1920 was used as the basis of calculations for 1921.
[2] Counties of Lincoln, Adams, Franklin, Grant, and Douglas.
[3] Counties of Pend Oreille, Stevens, Ferry, and Okanogan.
[4] Counties of Spokane, Whitman, Garfield, Asotin, Columbia, and Walla Walla.
[5] Counties of Chelan, Kittitas, Yakima, Klickitat, and Benton.

TABLE 57.—*Cost of production, excluding land rent, and farm price of winter wheat, 1913–1923.*

[Bureau of Agricultural Economics, Department of Agriculture.]

Year.	Kansas, Nebraska, Missouri.[1]						
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Difference between farm value and cost per acre (excluding land rent).	Value per acre of land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Bushels.*	*Dollars.*	*Dollars.*
1913	9.62	11.70	+2.08	60	15.2	0.68	0.77
1914	10.18	18.03	+7.85	61	19.6	.52	.92
1915	9.98	13.34	+3.36	61	13.9	.72	.96
1916	10.19	18.36	+8.17	66	13.4	.76	1.37
1917	13.50	27.72	+14.22	70	13.2	1.02	2.10
1918	17.12	28.34	+11.22	77	14.1	1.21	2.01
1919	19.47	28.76	+9.29	85	13.5	1.44	2.13
1920	20.48	26.93	+6.45	106	15.3	1.34	1.76
1921	15.02	12.85	−2.17	99	12.6	1.19	1.02
1922	12.01	11.31	−.70	79	13.0	.92	.87
1923[2]	12.09	9.49	−2.60	77	10.1	1.20	.94

[1] Costs computed from basic requirements as shown in Bulletin No. 943; 1913–1921 prices are averages of prices from July to June; 1922–1923 prices are for Oct. 1.
[2] 1923 figures subject to revision.

TABLE 58.—*Index numbers of cost of production, excluding land rent, and farm price of winter wheat, 1913–1923.*

Year.	Kansas, Nebraska, Missouri.					
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of land with improvements.	Yield per acre.	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	106	154	102	129	83	120
1915	104	114	102	91	114	125
1916	106	157	110	88	121	178
1917	140	237	117	87	162	273
1918	178	242	128	93	192	261
1919	202	246	142	89	229	277
1920	213	230	177	101	213	229
1921	156	110	165	83	189	134
1922	125	97	132	86	146	113
1923	126	81	128	66	190	122

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TABLE 59.—*Cost of production, excluding land rent, and farm price of spring wheat, 1913–1923.*

[Bureau of Agricultural Economics, Department of Agriculture.]

Year.	North Dakota, South Dakota, Minnesota.[1]						
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Difference between farm value and cost per acre (excluding land rent).	Value per acre of all land with improvements.	Yield per acre	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Dollars.	*Dollars.*	*Dollars.*	*Dollars.*	*Bushels.*	*Dollars.*	*Dollars.*
1913	8.44	8.89	+0.45	49	11.7	0.72	0.76
1914	8.31	10.60	+2.29	52	10.5	.79	1.01
1915	10.42	16.54	+6.12	54	17.6	.59	.94
1916	8.76	8.87	+.11	57	6.2	1.41	1.43
1917	13.25	23.60	+10.35	62	11.8	1.12	2.00
1918	16.77	33.46	+16.69	65	16.4	1.02	2.04
1919	17.12	17.94	+.82	72	7.8	2.19	2.30
1920	18.92	15.65	−3.27	95	9.1	2.08	1.72
1921	12.36	8.94	−3.42	94	8.6	1.44	1.04
1922	11.64	11.54	−.10	81	13.9	.84	.83
1923 [2]	10.76	8.10	−2.66	73	8.9	1.21	.91

[1] Costs computed from basic requirements as shown in Bulletin No. 943; 1913–1921 prices are averages of prices from July to June; 1922–23 prices are for Oct. 1.
[2] 1923 figures subject to revision.

TABLE 60.—*Index numbers of cost of production, excluding land rent, and farm price of spring wheat, 1913–1923.*

Year.	North Dakota, South Dakota, Minnesota.					
	Net cost per acre (excluding land rent).	Farm value of wheat per acre.	Value per acre of all land with improvements.	Yield per acre	Net cost per bushel (excluding land rent).	Farm price per bushel.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1913	100	100	100	100	100	100
1914	98	119	106	90	110	133
1915	123	186	110	150	82	124
1916	104	100	116	53	196	188
1917	157	265	126	101	156	263
1918	199	376	133	140	142	268
1919	203	202	147	67	304	303
1920	224	176	194	78	289	226
1921	146	101	192	74	200	132
1922	138	130	165	119	117	109
1923	127	91	149	76	168	120

TABLE 61.—*Percentage of winter wheat acreage abandoned, estimates in May, 1903–1923.*

[Division of Crop and Livestock Estimates.]

State.	Average 1903–1912.	Average 1913–1922.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
New York	4.6	3.1	1.0	1.2	1.0	4.0	15.0	0.7	1.5	2.0	2.5	3.2
New Jersey	3.7	4.4	4.5	4.0	3.0	5.0	6.0	1.5	10.0	1.8	4.0	3.0
Pennsylvania	3.0	2.8	2.0	4.9	2.5	4.0	5.0	0.5	3.5	1.0	2.0	2.5
Delaware	2.8	.....	2.0	2.5	3.0	3.5	9.0	.....	5.0	2.5	2.0	3.0
Maryland	2.2	2.8	1.5	3.0	3.8	4.2	5.0	0.5	4.0	2.0	2.0	3.2
Virginia	2.9	2.3	1.9	3.5	2.0	5.0	1.0	1.0	3.0	2.2	1.5	2.5
West Virginia	4.1	2.1	2.0	2.0	2.0	2.5	2.0	0.5	4.0	1.5	1.5	3.5
North Carolina	3.8	2.9	2.6	4.0	1.5	10.0	2.0	1.0	2.0	2.0	1.0	2.0
South Carolina	5.0	5.7	3.0	3.3	3.0	25.0	2.0	2.0	2.0	2.5	10.0	2.0
Georgia	5.6	8.8	3.0	5.0	4.0	38.0	11.0	6.0	5.0	3.5	9.0	5.0
Ohio	11.5	5.4	1.3	1.8	18.0	4.0	5.0	0.1	16.0	2.0	2.5	12.5
Indiana	12.7	8.0	1.3	2.0	30.0	20.0	1.0	1.0	13.0	3.0	5.0	6.0
Illinois	10.4	10.3	2.0	2.0	33.0	35.0	3.0	1.0	18.0	2.3	5.0	5.5
Michigan	8.9	5.3	2.3	1.0	3.5	5.0	24.0	1.0	7.0	2.5	2.0	4.5
Wisconsin	7.9	11.5	5.0	3.0	20.0	5.0	45.0	2.0	4.0	10.0	16.0	4.0
Minnesota	.....	.....	8.0	3.0	25.0	15.0	18.0	3.5	14.0	7.0	12.0	15.0
Iowa	9.1	10.9	2.0	1.0	18.0	62.0	13.0	0.4	6.0	1.0	2.0	5.0
Missouri	7.7	6.4	1.4	2.5	20.0	22.0	1.0	0.6	9.0	2.0	3.7	1.8
South Dakota	.....	.....	14.0	3.0	9.0	34.0	20.0	5.0	15.0	7.5	6.0	40.0
Nebraska	7.8	11.8	4.0	1.0	4.0	75.0	10.0	0.3	8.0	2.0	12.0	25.0
Kansas	11.8	15.2	4.5	3.5	5.0	53.0	29.0	0.4	16.0	8.0	27.0	28.0
Kentucky	7.1	6.0	2.3	7.0	6.0	16.0	2.0	1.0	14.0	3.5	3.0	3.5
Tennessee	4.9	7.1	2.0	4.5	4.5	35.0	2.0	1.8	14.0	2.0	2.0	2.5
Alabama	6.7	7.2	8.0	5.0	6.0	30.0	3.0	2.0	3.0	5.0	6.0	7.0
Mississippi	7.9	10.3	15.0	10.0	6.0	25.0	5.0	5.0	10.0	20.0	5.0	8.0
Texas	14.2	17.8	5.0	0.5	33.0	25.0	45.0	3.0	10.0	4.0	41.0	8.0
Oklahoma	.....	9.4	3.0	0.5	5.0	17.0	20.0	0.1	13.0	4.0	24.0	9.0
Arkansas	5.6	3.3	2.5	2.0	5.0	5.0	1.0	1.7	6.0	4.0	3.5	4.0
Montana	.....	12.4	5.0	3.0	25.0	22.0	12.0	4.5	22.0	15.0	9.0	18.0
Wyoming	.....	7.0	4.0	2.0	5.0	15.0	10.0	4.0	6.0	8.0	11.0	17.0
Colorado	.....	9.2	8.0	3.0	8.0	20.0	7.0	1.0	12.0	8.0	20.0	33.0
New Mexico	.....	18.5	7.0	2.5	8.0	28.0	35.0	5.0	15.0	10.0	60.0	50.0
Arizona	.....	6.4	5.0	3.5	6.0	10.0	13.0	5.0	5.0	10.0	1.0	8.0
Utah	.....	3.8	3.0	3.0	2.0	5.0	2.0	4.5	4.0	4.0	2.0	2.5
Nevada	.....	5.7	4.5	4.0	3.0	5.0	1.0	5.0	12.0	8.0	1.0	2.0
Idaho	3.9	5.2	2.0	4.0	5.5	10.0	4.0	2.0	10.0	3.0	6.0	4.0
Washington	8.5	10.4	4.5	4.0	20.0	33.0	5.0	3.0	20.0	2.0	7.0	5.0
Oregon	7.5	3.4	2.0	2.5	2.0	11.0	2.0	1.5	3.0	1.0	4.0	3.0
California	13.3	15.8	5.0	5.0	20.0	20.0	15.0	10.0	16.0	28.0	8.7	8.0
United States	9.4	9.8	3.1	2.7	11.4	31.0	13.7	1.1	11.9	4.6	14.5	14.3

TABLE 62.—*Total winter wheat acreage, production, and percentage of acreage abandoned in representative counties of high and low crop risk in Kansas, 1912–1923.*

[Biennial Reports, Kansas State Board of Agriculture.]

Year.	Ford County (area high crop risk).					McPherson County (area low crop risk).				
	Area seeded.	Area harvested.	Total production.	Average yield per seeded acre.	Percentage of seeded acreage abandoned.	Area seeded.	Area harvested.	Total production.	Average yield per seeded acre.	Percentage of seeded acreage abandoned.
	Acres.	*Acres.*	*Bushels.*	*Bushels.*	*Per cent*	*Acres.*	*Acres.*	*Bushels.*	*Bushels*	*Per cent*
1912	237,907	223,633	3,130,862	13.2	6.0	141,184	76,239	914,868	6.5	46.0
1913	243,943	134,169	670,845	2.8	45.0	163,041	158,150	2,214,100	13.6	3.0
1914	270,668	270,668	5,142,692	19.0	0.0	192,368	192,368	4,424,464	23.0	0.0
1915	252,583	212,170	2,546,040	10.1	16.0	193,282	164,290	2,135,770	11.0	15.0
1916	249,690	222,224	3,111,136	12.5	11.0	186,138	163,801	1,638,010	8.8	12.0
1917	317,739	25,419	127,095	.4	92.0	177,394	127,724	1,915,860	10.8	28.0
1918	284,261	28,426	85,278	.3	90.0	204,051	193,848	3,489,264	17.1	5.0
1919	297,800	297,800	3,275,800	11.0	0.0	223,250	223,250	2,679,000	12.0	0.0
1920	320,239	237,043	1,896,344	5.9	26.0	204,236	181,770	2,544,780	12.5	11.0
1921	306,398	240,737	2,648,107	8.6	21.4	223,774	210,348	2,734,524	12.2	6.0
1922	320,100	192,000	1,728,000	5.4	40.0	245,000	245,000	4,410,000	18.0	0.0
1923	314,200	62,800	251,200	.8	80.0	232,500	225,500	2,255,000	9.7	3.0
All	3,415,528	2,147,089	24,613,399	7.2	37.1	2,386,218	2,162,288	31,355,640	13.1	9.4

TABLE 63.—*Hours of man and horse labor prior to harvest, and amount of seed wheat required per bushel of production in representative counties of high and low crop risk in Kansas, 1912–1923.*

[Division of Cost of Production.]

Year.	Man labor prior to harvest.		Horse labor prior to harvest.		Seed.	
	Ford County (area high crop risk).	McPherson County (area low crop risk).	Ford County (area high crop risk).	McPherson County (area low crop risk).	Ford County (area high crop risk).	McPherson County (area low crop risk).
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Bushels.*	*Bushels.*
1912	0.22	1.01	0.96	4.22	0.06	0.24
1913	1.45	.34	6.21	1.42	.40	.08
1914	.15	.20	.63	.82	.04	.05
1915	.32	.47	1.38	1.97	.09	.11
1916	.25	.57	1.07	2.39	.07	.13
1917	13.44	.53	57.60	2.23	3.70	.13
1918	17.73	.28	76.00	1.15	4.88	.07
1919	.25	.38	1.09	1.57	.07	.09
1920	.59	.40	2.56	1.67	.16	.09
1921	.70	.39	1.69	1.63	.11	.09
1922	.73	.25	3.11	1.04	.20	.06
1923	6.30	.48	27.00	2.00	1.73	.11

TABLE 64.—*Cost of producing wheat, 1922.*

[Division of Cost of Production.]

Region.	Number of reports.	Yield per acre.[1]	Gross cost per acre.							
			Labor.			Fertilizer and manure.	Seed.	Miscellaneous costs.	Land rent.	Total.
			Preparing land and planting.	Harvesting and threshing.	Marketing.					
		Bush.	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*
United States[2]	2,417	16	3.94	4.27	1.40	2.47	1.84	1.87	5.41	21.20
Eastern States[3]	331	19	6.10	5.38	1.88	6.47	2.47	2.24	5.60	30.14
Corn Belt States[4]	507	18	3.73	4.15	1.21	3.00	2.06	1.61	6.63	22.39
Spring wheat States[5]	436	15	3.09	3.53	1.42	.36	1.49	1.67	3.66	15.22
Winter wheat States[6]	421	14	3.02	3.98	.94	.60	1.33	1.53	4.47	15.87
Pacific Northwest wheat States[7]	104	22	4.39	5.09	1.42	1.04	1.59	3.20	9.89	26.62

Region.	Number of reports.	Yield per acre.[1]	Deductions for by-products per acre.	Net cost.				Value of product.	
				Excluding land rent.		Including land rent.			
				Per acre.	Per bushel.	Per acre.	Per bushel.	Per acre.	Per bushel.
		Bush.	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
United States[2]	2,417	16	1.52	14.27	0.89	19.68	1.23	17.79	1.11
Eastern States[3]	331	19	3.83	20.71	1.09	26.31	1.38	22.19	1.17
Corn Belt States[4]	507	18	1.80	13.96	.78	20.59	1.14	19.72	1.10
Spring wheat States[5]	436	15	.50	11.06	.74	14.72	.98	13.63	.91
Winter wheat States[6]	421	14	.57	10.83	.77	15.30	1.09	13.33	.95
Pacific Northwest wheat States[7]	104	22	.92	15.81	.72	25.70	1.17	22.98	1.04

[1] Average yields on farms reporting.
[2] Average for all forms reporting.
[3] New York, Pennsylvania, Maryland, Virginia, and West Virginia.
[4] Ohio, Indiana, Illinois, and Iowa.
[5] Minnesota, North Dakota, South Dakota, and Montana.
[6] Missouri, Kansas, Nebraska, Oklahoma, and Texas.
[7] Idaho, Washington, and Oregon.

TABLE 65.—*Variation in net cost per bushel of winter wheat, based on 284 records, 1919.*

[Division of Cost of Production.]

Net cost per bushel.	Number of farms.	Cumulative per cent of number of farms.	Cumulative per cent of harvested acreage.	Cumulative per cent of production.	Net cost per bushel.	Number of farms.	Cumulative per cent of number of farms.	Cumulative per cent of harvested acreage.	Cumulative per cent of production.
Dollars.		*Per cent.*	*Per cent.*	*Per cent.*	*Dollars.*		*Per cent.*	*Per cent.*	*Per cent.*
1.00	2	0.7	1.8	2.3	2.90	3	91.6	92.7	97.0
1.10	3	1.8	3.9	5.1	3.00	2	92.3	93.1	97.3
1.20	5	3.6	5.0	6.5	3.10	4	93.7	93.8	97.7
1.30	8	6.4	9.1	12.0	3.20	2	94.4	94.8	98.1
1.40	10	9.9	14.1	16.5	3.30	2	95.1	95.0	98.3
1.50	20	16.9	20.9	27.5	3.40	1	95.4	95.5	98.5
1.60	18	23.2	27.6	35.2	3.50	2	96.1	95.9	98.7
1.70	23	31.3	37.3	45.1	3.60	3	97.2	96.9	99.1
1.80	21	38.7	45.0	53.6	3.70	1	97.5	97.1	99.2
1.90	30	49.3	54.2	63.9	3.80	1	97.8	97.3	99.3
2.00	25	58.1	63.6	73.7	3.90	1	98.1	97.7	99.5
2.10	22	65.8	68.8	78.4	4.00	.....	98.1	97.7	99.5
2.20	15	71.1	72.9	82.2	4.10	1	98.4	97.8	99.6
2.30	10	74.6	76.9	85.5	4.20	.....	98.4	97.8	99.6
2.40	12	78.8	80.7	88.5	4.30	1	98.8	98.4	99.7
2.50	12	83.0	85.2	91.8	[1]	.....	.....	.....	.....
2.60	5	84.8	86.5	92.9	5.10	1	99.2	99.1	99.8
2.70	11	88.7	91.3	95.9	5.20	1	99.6	99.2	99.9
2.80	5	90.5	92.0	96.4	5.20	1	100.0	100.0	100.0

[1] No farms reporting costs between $4.30 and $5.10 per bushel.

TABLE 66.—*Relation of yield to cost, winter wheat, 1920 (216 farms).*

[Unpublished data obtained by the United States Department of Agriculture in Kansas, Nebraska, Missouri, and Oklahoma.]

Variation in yield.	Number of records.	Average yield.	Area harvested.	Cumulative area harvested.	Cumulative percentage of harvested acreage.	Production.	Cumulative production.	Cumulative percentage of production.	Variation in cost per bushel.	Average cost per bushel.
		Bushel.	*Acres.*	*Acres.*	*Per cent.*	*Bushel.*	*Bus hel.*	*Per cent.*	*Dollars.*	*Dollars.*
Under 7 bushels...	11	5.4	1,214	1,214	6	6,608	6,608	2	2.54–8.31	3.95
7 to 12.9 bushels...	66	10.7	6,163	7,377	39	65,428	72,428	26	1.21–4.91	2.11
13 to 18.9 bushels..	84	15.9	6,917	14,294	76	109,870	182,298	65	1.03–2.95	1.72
19 to 24.9 bushels..	43	20.8	3,981	18,275	97	82,706	265,004	95	1.03–1.96	1.46
25 bushels and over	12	27.1	549	18,824	100	14,902	279,906	100	.99–1.90	1.37

TABLE 67.—*Cost of producing wheat, 1902–1921.*[1]

Region.	Year.	Cost per acre.		Yield per acre.	Cost per bushel.		Average farm price per bushel.[2]
		Excluding land rent.	Including land rent.		Excluding land rent.	Including land rent.	
		Dollars.	*Dollars.*	*Bushel.*	*Dollars.*	*Dollars.*	*Dollars.*
Minnesota:							
Rice County [3]	1902–1907	6.36	9.86	15.0	.42	.66	.74
Lyon County [3]	1902–1907	5.39	8.39	12.6	.43	.67	.74
Norman County [3]	1902–1907	4.88	6.98	12.4	.39	.56	.74
Rice County [4]	1908–1912	8.54	13.04	15.9	.54	.82	.90
Lyon County [4]	1908–1912	8.59	12.60	22.0	.39	.57	.90
Norman County [4]	1908–1912	7.37	10.37	16.6	.44	.62	.90
Wisconsin [5]	1909–1918	8.62	12.10	17.0	.51	.71	1.35
North Dakota [5]	1911–1916	8.89	11.22	13.2	.67	.85	.87
North Dakota [5]	1917	13.40	15.75	13.2	1.02	1.19	2.00
New York [6]	1913	24.92	28.88	27.4	.91	1.05	.93
New York [6]	1914	18.20	23.19	23.0	.79	1.01	1.08
Missouri [7]	1910–13	7.28	12.30	.....	.....	.....	.87
1919 Winter wheat: [8]							
Kansas—							
Ford County	1919	18.03	24.30	13.3	1.36	1.82	1.99
Pawnee County	1919	15.11	23.06	13.9	1.09	1.65	2.01
McPherson County	1919	21.55	30.20	12.7	1.70	2.38	1.94
Missouri—							
Saline County	1919	20.93	35.28	16.3	1.28	2.17	2.01
Jasper County	1919	24.10	34.64	19.2	1.26	1.80	1.89
St. Charles County	1919	22.49	34.13	19.6	1.15	1.74	2.10
Nebraska—							
Phelps County	1919	16.72	23.84	10.8	1.55	2.20	1.89
Saline County	1919	25.66	39.54	18.1	1.42	2.19	2.09
Keith County	1919	18.83	28.52	18.1	1.04	1.57	1.95
Average	1919	18.99	27.80	14.9	1.27	1.87	1.99
1919 Spring wheat: [8]							
Minnesota—							
Clay County	1919	16.29	22.91	8.1	2.01	2.82	2.09
Traverse County	1919	17.21	23.61	8.4	2.05	2.80	2.21
North Dakota—							
Grand Forks County	1919	17.37	21.88	9.8	1.77	2.24	2.17
Morton County	1919	16.47	18.83	4.4	3.74	4.26	2.47
South Dakota—							
Spink County	1919	15.80	23.70	9.9	1.60	2.40	2.13
Average	1919	16.61	22.40	8.4	1.98	2.65	2.17
1920 Winter wheat: [9]							
Missouri—							
Pike County	1920	24.46	32.56	13.5	1.81	2.42	2.46
Carroll County	1920	24.30	35.37	17.6	1.38	2.01	2.35
Nebraska—							
Gage County	1920	22.28	37.24	21.5	1.04	1.73	2.17
Clay County	1920	19.76	33.60	13.1	1.51	2.57	1.95
Cheyenne County	1920	18.87	27.25	19.0	.99	1.43	1.90
Kansas—							
Thomas County	1920	12.85	17.83	14.1	.91	1.26	1.95
McPherson County	1920	18.59	29.62	14.6	1.27	2.03	2.22
Pawnee County	1920	17.87	24.62	12.1	1.48	2.03	2.10
Oklahoma—							
Garfield County	1920	21.14	30.55	18.4	1.15	1.66	2.19
Woodward County	1920	18.67	21.82	9.5	1.97	2.30	2.12
Average	1920	18.72	26.30	14.9	1.26	1.80	2.09
Idaho: Latah County	1919	34.69	53.72	31.6	1.10	1.70	2.09
Washington: Whitman County [9]	1920	34.42	54.32	36.6	.94	1.48	1.29
	1921	29.65	47.29	31.6	.94	1.50	.90
Oregon: [9] Sherman County	1920	23.26	32.92	20.9	1.11	1.58	1.65
	1921	21.13	30.55	27.8	.76	1.10	1.00

[1] Gross costs are shown prior to 1919. From 1919 through 1921 a deduction has been made for the value of straw and pasture, resulting in a net cost per bushel and per acre.

[2] 1902–1913, State averages as reported by the United States Department of Agriculture; 1919–1921 prices received on farms studied.

[3] United States Department of Agriculture, Bureau of Statistics, Bulletin No. 73.

[4] Minnesota Agricultural Experiment Station, Bulletin No. 145.

[5] Unpublished data in the files of the United States Department of Agriculture.

[6] New York Department of Agriculture, Bulletin No. 86.

[7] Missouri Agricultural Experiment Station, Bulletin No. 125.

[8] United States Department of Agriculture, Bulletin No. 943.

[9] Preliminary reports on cost of producing wheat, United States Department of Agriculture. Winter wheat after summer fallow.

TABLE 68.—*Operating costs in relation to volume of business, 40 Kansas elevators, crop year 1921–22.*

[Division of Cost of Marketing.]

Serial No.	Volume handled.	Salaries and wages per bushel.	Other operating costs per bushel.	Total operating cost.	Serial No.	Volume handled.	Salaries and wages per bushel.	Other operating costs per bushel.	Total operating cost.
	Bushels.	*Cents.*	*Cents.*	*Cents.*		*Bushels.*	*Cents.*	*Cents.*	*Cents.*
1	17,442	3.65	3.21	6.86	24	71,478	2.17	1.96	4.13
2	22,029	3.50	2.74	6.24	25	71,753	1.43	1.19	2.62
3	23,398	3.57	3.16	6.73	26	73,226	3.11	1.65	4.76
4	27,138	3.78	2.64	6.42	27	75,420	3.10	3.15	6.25
5	32,506	3.36	3.49	6.85	28	76,537	3.85	2.25	6.10
6	33,127	2.96	2.74	5.70	29	76,684	2.33	1.37	3.70
7	36,136	2.59	1.61	4.20	30	87,363	2.38	1.61	3.99
8	37,420	4.25	2.24	6.49	31	87,587	2.27	1.45	3.72
9	37,570	2.79	1.92	4.71	32	97,154	2.30	1.18	3.48
10	38,566	3.92	3.50	7.42	33	97,578	2.12	2.46	4.58
11	38,864	2.81	1.74	4.55	34	100,718	3.49	2.46	5.95
12	42,750	3.08	2.14	5.22	35	103,231	2.92	1.09	4.01
13	43,970	2.23	1.75	3.98	36	106,354	3.29	2.18	5.47
14	48,630	3.87	2.40	6.27	37	120,029	1.62	1.09	2.71
15	50,047	2.23	1.51	3.74	38	139,358	2.99	2.34	5.33
16	50,061	3.06	1.38	4.44	39	171,724	1.88	.93	2.81
17	51,989	3.41	1.59	5.00	40	252,958	.98	.92	1.90
18	52,083	2.75	1.54	4.29					
19	54,749	3.15	2.06	5.21	Average		2.62	1.75	4.37
20	57,067	3.45	3.25	6.70					
21	64,477	3.60	2.49	6.09	Per cent of				
22	65,266	3.02	2.00	5.02	total operating costs		60	40	100
23	67,755	2.60	1.87	4.47					

TABLE 69.—*Number of farmers' elevators in the North Central States, 1914–1921.*

[Division of Agricultural Cooperation.]

State.	1914	1915	1916	1917	1918	1919	1920	1921
Iowa	350	360	387	433	450	467	525	637
North Dakota	350	400	425	450	500	530	550	551
Illinois	300	300	300	327	351	409	495	607
Minnesota	270	278	299	331	360	385	420	428
South Dakota	220	220	240	250	306	306	326	329
Nebraska	200	230	247	326	353	391	462	494
Kansas	149	200	242	242	368	400	500	572
Ohio	35	48	73	90	93	140	300	324
Indiana	25	45	45	60	60	100	149	225
Wisconsin	19	19	19	19	98	98	98	88
Missouri	13	13	13	13	13	13	72	98
Michigan	11	11	11	11	11	11	75	89
Total	1,942	2,124	2,301	2,552	2,963	3,250	3,972	4,442

The figures in this table are derived from reports presented by secretaries of the Farmers' State Grain Dealers' Associations, as published in the American Cooperative Journal; "The cooperative elevator movement," a study by J. B. Kenkel, who supplemented or revised the figures by correspondence with State secretaries of the Farmers' State Grain Dealers' Associations; miscellaneous published reports and data in the files of the Bureau of Agricultural Economics.

TABLE 70.—*State grain marketing associations.*

[Division of Agricultural Cooperation.]

Association.	Location.	Date organized.	Number of members.	Grain handled in 1922.
				Bushels.
1. Colorado Wheat Growers' Association	Haxtum, Colo	1921	1,800	.....
2. Idaho Wheat Growers' Association	American Falls, Idaho	1920	3,296	424,000
3. Minnesota Wheat Growers' Cooperative Marketing Association.	Thief River Falls, Minn.	1923	3,000	40,000
4. Montana Wheat Growers' Association	Lewistown, Mont	1921	6,500	6,000,000
5. Nebraska Wheat Growers' Association	Hastings, Nebr	1922	1,100	400,000
6. North Dakota Wheat Growers' Association.	Grand Forks, N. Dak	1923	9,230	.....
7. Oregon Cooperative Grain Growers' Association.	Portland, Oreg	1921	3,170	.....
8. South Dakota Wheat Growers' Association, Inc.	Aberdeen, S. Dak	1923	1,183	.....
9. Washington Wheat Growers' Association.	Spokane, Wash	1920	2,980	.....
10. Oklahoma Wheat Growers' Association.	Enid, Okla	1922	8,310	2,961,074
11. Texas Wheat Growers' Association	Amarillo, Tex	1922	2,000	218,520
12. Arizona Grain Growers	Phoenix, Ariz	1922	227	.....
13. California Farm Bureau Exchange	San Francisco, Calif	1922	.....	3,086,474
14. Kansas Wheat Growers' Association	Wichita, Kans	1921	3,400	2,500,000

Nos. 1–9 are affiliated with the American Wheat Growers' Associated (Inc.), Minneapolis, Minn.; Nos. 10 and 11 with the Southwest Wheat Growers' Associated, Enid, Okla.; Nos. 12–14 are independent.

TABLE 71.—*Dockage assessed on wheat at Minnesota markets, 1899–1922.*

[Minnesota State Grain Inspection Department.]

Crop year beginning Sept. 1.	Number of cars on which dockage is assessed.	Amount of wheat in cars.[1]	Amount of dockage assessed.[2]	Percentage of dockage assessed.
	Cars.	*Bushels.*	*Bushels.*	*Per cent.*
1899	163,824	212,971,200	4,365,909.4	2.0
1900	111,742	145,264,600	3,558,982.7	2.4
1901	.....	.....	.....	.....
1902	129,154	167,900,200	3,190,103.8	1.9
1903	111,015	144,319,500	3,175,029.0	2.2
1904	109,160	141,908,000	2,743,554.6	1.9
1905	140,546	182,709,800	5,298,584.2	2.9
1906	134,298	174,587,400	5,848,677.9	3.3
1907	95,917	124,692,100	4,218,749.4	3.4
1908	117,909	153,281,700	3,525,479.1	2.3
1909	150,699	195,908,700	5,354,837.8	2.7
1910	91,995	119,593,500	2,272,276.5	1.9
1911	103,399	134,418,700	4,054,964.1	3.0
1912	182,800	237,640,000	6,495,493.3	2.7
1913	137,483	178,727,900	6,553,356.3	3.7
1914	126,897	164,966,100	5,911,285.2	3.6
1915	219,165	284,914,500	10,826,751.0	3.8
1916	94,942	123,424,600	5,986,093.1	4.8
1917	88,830	115,479,000	4,041,765.0	3.5
1918	157,452	204,687,600	4,776,044.0	2.3
1919	85,657	111,354,100	5,010,934.5	4.5
1920	127,976	166,368,800	7,486,596.0	4.5
1921	107,452	139,687,600	5,343,050.7	3.8
1922	138,668	180,268,400	7,589,299.6	4.2

[1] Based on 1,300 bushels to the car.

[2] Based on 60 pounds to bushel.

TABLE 72.—*Some factors influencing the price of wheat (hard winter wheat at Kansas City).*

[Kansas City Grain Market Review.]

Aug. 26, 1922.

Grade.	Price.	Description.
	Dollars.	
Dark hard....No. 1.....	1.10	Average protein, northern Kansas.
No. 2.....	1.14–1.17	13–14 per cent protein; good territory Kansas or higher test Nebraska.
	1.08–1.11	12 to over 13 per cent protein, northwest Kansas, Nebraska, and Colorado.
No. 3.....	1.15–1.17	Higher protein; southern Kansas wheat.
	1.10–1.12	Good strength from fair producing sections.
No. 4.....	1.15	14 per cent protein or under.
No. 5.....	1.08–1.13	Good to high test.
Hard.....No. 1.....	1.09	Near dark, good protein.
No. 2.....	1.08–1.10	13 per cent protein or more; near dark.
	1.05–1.08	12–13 per cent protein; 50–70 per cent dark.
	1.01–1.05	Medium.
	1.00	Ordinary.
No. 3.....	1.08–1.10	13 per cent protein or over; 70 per cent or more dark.
	1.05–1.07	12–13 per cent protein; 50–65 per cent dark.
	1.00–1.02	Medium.
	1.00	Ordinary.
No. 4.....	1.07–1.10	13 per cent protein and over; good character.
	1.03–1.06	12–13 per cent protein; 50 per cent and more dark.
	.97	Medium.
No. 5.....	.97–1.00	Average strength, medium quality.

Oct. 29, 1923.

Grade.	Price.	Description.
	Dollars.	
Dark hard..No. 4.....	1.18	13.72 per cent protein; Colorado.
	1.12	12.60 per cent protein; Colorado.
Hard.....No. 1.....	1.18	12.64 per cent protein; Kansas; 61½ pounds.
No. 2.....	1.20–1.22	12.90–13.50 per cent protein; near dark.
	1.18	12.42–12.58 per cent protein; good territory, Kansas.
	1.12–1.15	12.30–12.60 per cent protein; intermediate character.
	1.05–1.09	12.25 per cent or less protein; medium to ordinary quality.
No. 3.....	1.19–1.21	12.90–13.75 per cent protein; choice.
	1.12–1.16	12.50–13 per cent protein; medium to fair character.
	1.05–1.09	12–12.40 per cent protein; medium quality.
	1.03–1.05	12 per cent or less protein; ordinary.
No. 4.....	1.14–1.16	12.90–13.73 per cent protein; fair to good.
	1.08–1.11	12.45–12.85 per cent protein; intermediate.
	1.03–1.07	12–12.40 per cent protein.
	.98–1.03	Under 12 per cent protein.
	.98–1.00	Extremely common.
No. 5.....	1.19	14 per cent protein; fancy; 53½ pounds.
	1.12	13.12 per cent protein.
	1.07	Near 13 per cent protein.
	1.03–1.04	12.70 per cent protein.
	1.00	12 per cent protein; 53 pounds.
	.92– .96	Under 12 per cent protein; 51–53½ pounds.

TABLE 73.—*Farm prices and index numbers of selected farm products in the United States, 1909–1923.*

[Farm prices from Division of Crop and Livestock Estimates.]

FARM PRICES.

Year and month.	Wheat per bush.	Corn per bush.	Oats per bush.	Barley per bush.	Rye per bush.	Flax-seed per bush.	Pota-toes per bush.	Butter per lb.	Eggs per doz.	Beef cattle per cwt.	Hogs per cwt.	Sheep per cwt.
5-year average Aug. 1909–July, 1914	*Cents.* 88.6	*Cents.* 64.2	*Cents.* 40.0	*Cents.* 62.0	*Cents.* 72.2	*Cents.* 169.0	*Cents.* 69.7	*Cents.* 25.5	*Cents.* 21.5	*Dolls.* 5.21	*Dolls.* 7.22	*Dolls.* 4.58
1910	98.2	62.4	41.1	57.0	74.4	205.4	53.9	26.0	22.5	4.81	8.16	5.21
1911	86.5	57.2	37.4	72.8	76.9	216.9	78.0	23.4	19.4	4.47	6.29	4.14
1912	90.2	70.1	44.7	75.8	78.7	172.6	87.3	26.2	22.1	5.11	6.71	4.24
1913	79.2	61.8	36.0	52.1	63.6	116.6	59.7	27.0	21.3	5.90	7.49	4.54
1914	86.2	72.7	40.3	50.7	68.5	132.2	69.3	25.6	22.5	6.24	7.57	4.79
1915	112.9	72.4	45.1	57.4	93.0	157.4	52.5	26.0	22.0	6.01	6.59	5.28
1916	117.3	75.7	43.6	66.0	93.2	198.6	103.8	28.2	24.6	6.48	8.20	6.31
1917	201.2	141.4	63.4	107.4	156.0	281.4	189.9	36.0	33.8	8.14	13.59	9.50
1918	203.7	150.4	76.8	124.6	178.4	358.3	115.7	43.2	39.5	9.45	15.92	10.94
1919	214.7	156.6	69.4	105.4	141.3	402.2	139.4	50.7	43.8	9.72	16.23	9.59
1920	224.1	144.2	79.7	120.2	161.1	361.5	249.5	55.1	47.9	8.47	13.02	8.42
1921	119.1	57.8	36.1	50.8	103.6	158.0	103.8	38.7	34.0	5.52	7.84	4.60
1922	103.2	58.5	35.8	50.2	74.5	205.1	96.7	35.7	28.5	5.43	8.40	5.91
1923.												
January	105.6	69.6	41.2	58.6	72.2	224.2	59.3	43.8	44.2	5.51	7.77	6.88
February	103.7	70.7	41.8	55.0	71.2	235.6	64.7	42.3	33.5	5.55	7.65	6.83
March	105.1	74.3	43.1	57.4	70.8	255.1	63.6	41.8	30.4	5.62	7.52	7.06
April	106.9	76.3	43.9	58.6	69.4	268.0	73.6	41.4	21.8	5.78	7.45	7.20
May	109.8	83.0	45.7	60.7	72.1	291.0	81.3	40.3	22.5	5.77	7.13	6.92
June	106.6	85.0	44.9	60.9	66.3	255.2	76.6	38.5	21.8	5.82	6.37	6.43
July	95.1	86.5	42.5	55.7	58.2	241.7	83.1	37.3	20.9	5.72	6.68	6.43
August	84.2	87.4	37.8	53.7	54.4	215.9	122.7	36.8	22.9	5.60	6.85	6.22
September	88.7	86.6	37.3	50.7	56.2	204.8	119.0	39.1	26.5	5.70	7.81	6.57
October	93.2	85.7	38.6	53.1	58.2	212.1	100.2	41.4	32.4	5.48	7.23	6.33
November	95.1	83.9	40.2	56.3	59.5	212.1	82.7	42.9	38.3	.....	.....	.....

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5-year average Aug., 1909–July, 1914	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100	*Per cent.* 100
1910	111	97	103	92	103	122	77	102	105	92	113	114
1911	98	89	94	117	106	128	112	92	90	86	87	90
1912	102	109	112	122	109	102	126	103	103	98	93	93
1913	89	96	90	84	88	69	86	106	99	113	104	99
1914	97	113	101	82	95	78	99	100	105	120	105	105
1915	127	113	113	92	129	93	76	102	102	115	91	115
1916	132	118	109	106	129	118	149	111	114	124	114	138
1917	227	220	158	173	216	167	272	141	157	156	188	207
1918	230	234	192	200	247	212	166	169	184	181	220	239
1919	242	244	174	170	196	238	200	199	204	187	225	209
1920	253	225	199	193	223	214	358	216	223	163	180	184
1921	134	90	90	82	143	93	149	152	158	106	109	100
1922	116	91	90	81	103	121	139	140	133	104	116	129
1923.												
January	121	120	107	96	101	138	95	154	149	109	111	150
February	116	119	106	86	98	138	98	156	127	109	107	150
March	118	123	107	91	99	147	95	161	141	106	102	147
April	120	123	108	91	96	155	108	163	127	105	98	142
May	122	128	111	94	100	165	117	163	135	105	99	140
June	117	126	107	94	90	145	110	162	131	112	89	135
July	109	125	102	91	80	144	112	163	125	107	92	141
August	92	124	88	89	74	129	138	158	132	110	94	144
September	101	122	95	85	79	122	149	161	139	112	104	154
October	106	126	100	88	81	127	145	162	147	108	98	151
November	107	136	105	93	83	127	136	161	151	.....	.....	.....

TABLE 74.—*Acreage and production of important crops in the United States, 1909–1913—1923.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Crop.	Average, 1909–1913	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
All wheat	47,097	75,694	58,253	+28,597	−17,441	+11,156
Winter wheat, planted	32,088	51,483	46,379	+19,395	−5,104	+14,291
Winter wheat, harvested	28,356	50,494	39,750	+22,138	−10,744	+11,394
Spring wheat	18,741	25,200	18,503	+6,459	−6,697	−238
Corn	104,229	97,170	103,112	−7,059	+5,942	−1,117
Oats	37,357	40,359	40,768	+3,002	+409	+3,411
Barley	7,619	6,720	7,980	−899	+1,260	+361
Flax	2,490	1,503	2,285	−987	+782	−205
Rye	2,236	6,307	5,234	+4,071	−1,073	+2,998
Potatoes	3,677	3,542	3,892	−135	+350	+215
Tame hay	49,756	56,888	60,253	+7,132	+3,365	+10,497
Crop acreage, 19 selected crops	312,847	349,797	348,536	+36,950	−1,261	+35,689

PRODUCTION.

	1,000 bushs.	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*
All wheat	690,108	967,979	781,737	+277,871	−186,242	+91,629
Winter wheat	443,308	760,377	568,386	+317,069	−191,991	+125,078
Spring wheat	246,800	207,602	213,351	−39,198	+5,749	−33,449
Corn	2,712,364	2,811,302	3,029,192	+98,938	+217,890	+316,838
Oats	1,143,407	1,184,030	1,302,453	+40,623	+118,423	+159,046
Barley	184,812	147,608	199,251	−37,204	+51,643	+14,439
Flax	19,505	7,256	19,343	−12,249	+12,087	−162
Rye	36,093	75,483	64,774	+39,390	−10,709	+28,681
Potatoes	357,699	322,867	416,722	−34,832	+93,855	+59,023
Tame hay (tons)	65,987	86,359	86,538	+20,372	+179	+20,551

TABLE 75.—*Acreage and production of wheat in the United States, average 1909–1913, annual 1914–1923.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Year.	Acreage planted, all wheat.	Acreage harvested.		
		All wheat.	Winter wheat.	Spring wheat.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Average 1909–1913	50,829	47,097	28,356	18,741
1914	54,661	53,541	36,008	17,533
1915	62,042	60,469	41,308	19,161
1916	56,810	52,316	34,709	17,607
1917	58,366	45,089	27,257	17,832
1918	64,352	59,181	37,130	22,051
1919	76,683	75,694	50,494	25,200
1920	65,988	61,143	40,016	21,127
1921	65,177	63,696	43,414	20,282
1922	67,114	61,630	42,127	19,503
1923	64,882	58,253	39,750	18,503

TABLE 75.—*Acreage and production of wheat in the United States, average 1909–1913, annual 1914–1923*—Continued.

PRODUCTION.

Year.	All wheat.	Winter wheat.	Spring wheat.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*
Average 1909–1913	690,108	443,308	246,800
1914	891,017	684,990	206,027
1915	1,025,801	673,947	351,854
1916	636,318	480,553	155,765
1917	636,655	412,901	223,754
1918	921,438	565,099	356,339
1919	967,979	760,377	207,602
1920	833,027	610,597	222,430
1921	814,905	600,316	214,589
1922	862,091	586,204	275,887
1923	781,737	568,386	213,351

TABLE 76.—*Crop production in the Corn Belt (Ohio, Indiana, Illinois, Iowa, Missouri), 1909–1913—1923.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Crop.	Average, 1909–1913.	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
All wheat	8,738	15,824	11,617	+7,086	−4,207	+2,879
Winter wheat, planted	9,649	14,695	12,156	+5,046	−2,539	+2,507
Winter wheat, harvested	8,400	14,598	11,413	+6,198	−3,185	+3,013
Spring wheat	338	1,226	204	+888	−1,022	−134
Corn	36,252	33,325	34,530	−2,927	+1,205	−1,722
Oats	13,907	14,766	13,873	+859	−925	−34
Barley	590	610	486	+20	−124	−104
Flax	38	12	8	−26	−4	−30
Rye	260	802	720	+542	−82	+460
Potatoes	680	469	502	−211	+33	−178
Tame hay	14,414	13,881	15,394	−533	+1,513	+980
Crop acreage, 19 selected crops	76,387	80,793	78,378	+4,406	−2,415	+1,991

PRODUCTION.

	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
All wheat	135,861	252,930	155,957	+117,069	−96,973	+20,096
Winter wheat	130,313	238,198	152,480	+107,885	−85,718	+22,167
Spring wheat	5,548	14,732	3,477	+9,184	−11,255	−2,071
Corn	1,244,227	1,234,295	1,300,679	−9,932	+66,384	+56,452
Oats	461,379	471,319	466,641	+9,940	−4,678	+5,262
Barley	15,418	15,539	13,814	+121	−1,725	−1,604
Flax	317	192	76	−125	−116	−241
Rye	4,250	12,000	10,537	+7,750	−1,463	+6,287
Potatoes	52,829	26,080	47,854	−26,749	+21,774	−4,975
Tame hay (tons)	16,826	19,022	18,664	+2,196	−358	+1,838

TABLE 77.—*Crop production in the western winter wheat region (Nebraska, Kansas, Colorado, Oklahoma, Texas), 1909–1913—1925.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Crop.	Average, 1909–1913	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
All wheat	11,039	24,490	18,279	+13,451	−6,211	+7,240
Winter wheat, planted	12,433	23,676	22,817	+11,243	−859	+10,384
Winter wheat, harvested	10,425	23,495	17,502	+13,070	−5,993	+7,077
Spring wheat	614	995	777	+381	−218	+163
Corn	28,144	19,866	23,536	−8,278	+3,670	−4,608
Oats	5,875	7,297	6,819	+1,422	−478	+944
Barley	428	1,034	1,829	+606	+795	+1,401
Flax	66	15	26	−51	+11	−40
Rye	122	560	324	+438	−236	+202
Potatoes	356	326	388	−30	+62	+32
Tame hay	4,420	6,135	5,958	+1,715	−177	+1,538
Crop acreage, 19 selected crops	72,574	83,702	85,010	+11,128	+1,308	+12,436

PRODUCTION.

	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
All wheat	161,496	345,377	185,732	+183,881	−159,645	+24,236
Winter wheat	151,925	334,846	176,431	+182,921	−158,415	+24,506
Spring wheat	9,571	10,531	9,301	+960	−1,230	−270
Corn	500,185	476,303	573,936	−23,882	+97,633	+73,751
Oats	148,809	246,770	199,320	+97,961	−47,450	+50,511
Barley	8,132	27,267	43,928	+19,135	+16,661	+35,796
Flax	388	91	188	−297	+97	−200
Rye	1,833	7,162	3,579	+5,329	−3,583	+1,746
Potatoes	24,439	25,438	32,820	+999	+7,382	+8,381
Tame hay (tons)	6,118	12,499	11,634	+6,381	−865	+5,516

TABLE 78.—*Crop production in the spring wheat region (Minnesota, North Dakota, South Dakota, Montana), 1909–1913—1923.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Crop.	Average, 1909–1913.	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
All wheat	16,253	20,408	15,544	+4,155	−4,864	−709
Winter wheat, planted	321	1,176	630	+890	−546	+307
Winter wheat, harvested	297	743	502	+446	−241	+205
Spring wheat	15,956	19,665	15,042	+3,709	−4,623	−914
Corn	4,795	6,851	9,578	+2,056	+2,727	+4,783
Oats	7,157	8,465	9,628	+898	+1,573	+2,471
Barley	3,694	2,745	3,369	−949	+624	−325
Flax	2,377	1,468	2,242	−909	+774	−135
Rye	351	2,987	2,651	+2,636	−336	+2,300
Potatoes	374	534	681	+160	+147	+307
Tame hay	3,135	4,816	5,234	+1,681	+418	+2,099
Crop acreage, 19 selected crops	45,981	57,141	57,812	+11,160	+671	+11,831

TABLE 78.—*Crop production in the spring wheat region (Minnesota, North Dakota, South Dakota, Montana), 1909–1913—1923*—Continued.

PRODUCTION.

Crop.	Average, 1909–1913	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
All wheat	201,127	140,189	151,494	−60,938	+11,305	−49,633
Winter wheat	7,636	5,623	8,203	−2,013	+2,580	+567
Spring wheat	193,491	134,566	143,291	−58,925	+8,725	−50,200
Corn	146,916	228,416	331,166	+81,500	+102,750	+184,250
Oats	212,122	196,283	311,958	−15,839	+115,675	+99,836
Barley	75,502	46,140	71,518	−29,362	+25,378	−3,984
Flax	18,680	6,895	18,962	−11,785	+12,067	+282
Rye	6,474	28,993	27,884	+22,519	−1,109	+21,410
Potatoes	39,202	40,443	63,194	+1,241	+22,751	+23,992
Tame hay (tons)	4,291	7,172	7,726	+2,881	+554	+3,435

TABLE 79.—*Crop production in the Pacific Northwest wheat region (Idaho, Washington, Oregon), 1909–1913—1923.*

[Division of Crop and Livestock Estimates.]

ACREAGE.

Crop.	Average, 1909–1913.	1919	1923	Increase and decrease.		
				Between 1909–1913 and 1919.	Between 1919 and 1923.	Between 1909–1913 and 1923.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
All wheat	3,463	4,717	4,631	+1,254	−86	+1,168
Winter wheat, planted	1,965	2,479	2,744	+514	+265	+779
Winter wheat, harvested	1,885	2,422	2,629	+537	+207	+744
Spring wheat	1,578	2,295	2,002	+717	−293	+424
Corn	60	173	218	+113	+45	+158
Oats	961	679	642	−282	−37	−319
Barley	442	242	258	−200	+16	−184
Rye	27	62	66	+35	+4	+39
Potatoes	140	143	166	+3	+23	+26
Tame hay	2,170	2,979	3,061	+809	+82	+891
Crop acreage, 19 selected crops	7,660	9,408	9,472	+1,748	+64	+1,812

PRODUCTION.

	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
All wheat	78,687	83,402	117,230	+4,715	+33,828	+38,543
Winter wheat	47,578	50,047	69,277	+2,469	+19,230	+21,699
Spring wheat	31,109	33,355	47,953	+2,246	+14,598	+16,844
Corn	1,741	5,384	8,215	+3,643	+2,831	+6,474
Oats	41,277	22,839	29,662	−18,438	+6,823	−11,615
Barley	16,640	6,438	10,552	−10,202	+4,114	+6,088
Rye	515	624	1,019	+109	+395	+504
Potatoes	21,335	17,770	23,935	−3,565	+6,165	+2,600
Tame hay (tons)	5,077	6,399	7,454	+1,322	+1,055	+2,377

TABLE 80.—*Comparative returns per acre from wheat and flax when selling at varying prices per bushel; wheat yield 13 bushels per acre, flax yield 6 bushels per acre.*[1]

[Division of Farm Organization.]

Price of wheat per bushel.	Net return from wheat per acre.	Price of flax per bushel.								
		Dollars. 1.50	*Dollars.* 1.75	*Dollars.* 2.00	*Dollars.* 2.25	*Dollars.* 2.50	*Dollars.* 2.75	*Dollars.* 3.00	*Dollars.* 3.25	*Dollars.* 3.50
		Net return from flax per acre.								
		7.00	8.42	9.83	11.25	12.67	14.08	15.50	16.92	18.33
		Difference in net returns per acre from wheat and flax.								
Dollars.	*Dollars.*									
0.75	6.46	+0.54	+1.96	+3.37	+4.79	+6.21	+7.62	+9.04	+10.46	+11.87
1.00	9.46	−2.46	−1.04	+.37	+1.79	+3.21	+4.62	+6.04	+7.46	+8.87
1.25	12.46	−5.46	−4.04	−2.63	−1.21	+.21	+1.62	+3.04	+4.46	+5.87
1.50	15.46	−8.46	−7.04	−5.63	−4.21	−2.79	−1.38	+.04	+1.46	+2.87
1.75	18.46	−11.46	−10.04	−8.63	−7.21	−5.79	−4.38	−2.96	−1.54	−.13
2.00	21.46	−14.46	−13.04	−11.63	−10.21	−8.79	−7.38	−5.96	−4.54	−3.13
2.25	24.46	−17.46	−16.04	−14.63	−13.21	−11.79	−10.38	−8.96	−7.54	−6.13

[1] This table shows the comparative returns per acre from wheat and flax with a yield of 13 bushels and 6 bushels per acre, respectively, and selling for different prices per bushels as indicated. The figures in the column and line showing the net returns from wheat and flax were obtained by subtracting the costs, threshing, shocking, twine, and seed from the total value per acre. The rates used were as follows: Threshing (per bushel), wheat 13 cents, flax 25 cents; shocking (per acre), wheat 40 cents, flax 0; twine (per acre), wheat 45 cents, flax 0; seed (per acre), wheat 1 bushel, at sale price, flax one-third bushel at sale price. The difference between the net returns per acre for wheat and flax at the prices given indicates the relative profitableness of the two crops. The + figures indicate that flax is more profitable and the − figures that it is less profitable than wheat.

TABLE 81.—*Comparative returns per acre from wheat and flax when selling at varying prices per bushel; wheat yield 10 bushels per acre; flax yield 6 bushels per acre.*[1]

[Division of Farm Organization.]

Price of wheat per bushel.	Net return from wheat per acre.	Price of flax per bushel.								
		Dollars. 1.50	*Dollars.* 1.75	*Dollars.* 2.00	*Dollars.* 2.25	*Dollars.* 2.50	*Dollars.* 2.75	*Dollars.* 3.00	*Dollars.* 3.25	*Dollars.* 3.50
		Net return from flax per acre.								
		7.00	8.42	9.83	11.25	12.67	14.08	15.50	16.92	18.33
		Difference in net returns per acre from wheat and flax.								
Dollars.	*Dollars.*									
0.75	4.60	+2.40	+3.82	+5.23	+6.65	+8.07	+9.48	+10.90	+12.32	+13.73
1.00	6.85	+.15	+1.57	+2.98	+4.40	+5.82	+7.23	+8.65	+10.07	+11.48
1.25	9.10	−2.10	−.68	+.73	+2.15	+3.57	+4.98	+6.40	+7.82	+9.23
1.50	11.35	−4.35	−2.93	−1.52	−.10	+1.32	+2.73	+4.15	+5.57	+6.98
1.75	13.60	−6.60	−5.18	−3.77	−2.35	−.93	+.48	+1.90	+3.32	+4.73
2.00	15.85	−8.85	−7.43	−6.02	−4.60	−3.18	−1.77	−.35	+1.07	+2.48
2.25	18.10	−11.10	−9.68	−8.27	−6.85	−5.43	−4.02	−2.60	−1.18	+.23

[1] For explanation, see preceeding table.

TABLE 82.—*Estimated prices of No. 1 Northern Spring wheat, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau Labor Statistics, 1909–1913=100.[1]			Minneapolis prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.048	1.860	1.510	1.706	1.81	1.39	1.28
February	167.0	147.2	163.9	1.044	1.744	1.537	1.711	1.74	1.58	1.31
March	161.8	148.2	166.0	1.042	1.686	1.544	1.730	1.72	1.50	1.29
April	154.5	149.3	166.0	1.058	1.635	1.580	1.756	1.57	1.66	1.34
May	151.4	154.5	162.8	1.094	1.657	1.690	1.781	1.67	1.71	1.32
June	148.2	156.6	159.7	1.090	1.615	1.707	1.741	1.74	1.53	1.22
July	147.2	161.8	157.6	1.098	1.616	1.777	1.730	1.81	1.57	1.18
August	148.2	161.8	156.6	1.020	1.511	1.650	1.597	1.57	1.22	1.22
September	147.2	159.7	160.8	.996	1.466	1.591	1.602	1.56	1.20	1.26
October	148.2	160.8	159.7	.992	1.470	1.591	1.584	1.37	1.21	1.26
November	147.2	162.8	.....	.966	1.422	1.573	.....	1.30	1.28	.....
December	146.1	162.8	.....	.970	1.417	1.579	.....	1.33	1.31	.....
Year	153.4	155.5	.....	1.035	1.588	1.609	.....	1.60	1.43	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for corresponding month.
[4] No. 1 dark northern, average of reported sales.

TABLE 83.—*Estimated prices of No. 2 Hard Winter wheat, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau Labor Statistics, 1909–1913=100.[1]			Kansas City prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.008	1.789	1.453	1.641	1.72	1.13	1.14
February	167.0	147.2	163.9	1.000	1.670	1.472	1.639	1.62	1.29	1.15
March	161.8	148.2	166.0	1.008	1.631	1.494	1.673	1.55	1.34	1.16
April	154.5	149.3	166.0	1.046	1.616	1.562	1.736	1.33	1.35	1.20
May	151.4	154.5	162.8	1.066	1.614	1.647	1.735	1.47	1.34	1.16
June	148.2	156.6	159.7	1.060	1.571	1.660	1.693	1.38	1.17	1.04
July	147.2	161.8	157.6	.958	1.410	1.550	1.510	1.14	1.13	.96
August	148.2	161.8	156.6	.934	1.384	1.511	1.463	1.15	1.04	1.01
September	147.2	159.7	160.8	.942	1.387	1.504	1.515	1.22	1.04	1.09
October	148.2	160.8	159.7	.954	1.414	1.534	1.524	1.10	1.13	1.12
November	147.2	162.8	.....	.922	1.357	1.501	.....	1.10	1.17	.....
December	146.1	162.8	.....	.942	1.376	1.534	.....	1.09	1.17	.....
Year	153.4	155.5	.....	.987	1.514	1.535	.....	1.32	1.19	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales.

TABLE 84.—*Estimated prices of No. 2 Red Winter wheat, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per bushel.[2]	1909–1913 prices per bushel raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	1.074	1.906	1.548	1.748	1.94	1.21	1.30
February	167.0	147.2	163.9	1.068	1.784	1.572	1.750	1.85	1.34	1.35
March	161.8	148.2	166.0	1.056	1.709	1.565	1.753	1.65	1.38	1.31
April	154.5	149.3	166.0	1.090	1.684	1.627	1.809	1.41	1.40	1.32
May	151.4	154.5	162.8	1.148	1.738	1.774	1.869	1.67	1.34	1.28
June	148.2	156.6	159.7	1.124	1.666	1.760	1.795	1.47	1.18	1.16
July	147.2	161.8	157.6	.990	1.457	1.602	1.560	1.24	1.14	1.00
August	148.2	161.8	156.6	.974	1.443	1.576	1.525	1.22	1.07	1.00
September	147.2	159.7	160.8	.990	1.457	1.581	1.592	1.29	1.06	1.05
October	148.2	160.8	159.7	1.028	1.523	1.653	1.642	1.18	1.18	1.11
November	147.2	162.8	.....	.996	1.466	1.621	.....	1.23	1.27	.....
December	146.1	162.8	.....	.990	1.446	1.612	.....	1.18	1.33	.....
Year	153.4	155.5	.....	1.044	1.601	1.623	.....	1.44	1.24	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales.

TABLE 85.—*Estimated prices of contract grades of corn, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per bushel.[2]	1909–1913 prices raised with index wholesale prices.[3]			Prices received per bushel.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	0.574	1.019	0.827	0.934	0.682	0.484	0.711
February	167.0	147.2	163.9	.577	.964	.849	.946	.665	.572	.737
March	161.8	148.2	166.0	.590	.955	.874	.979	.649	.575	.740
April	154.5	149.3	166.0	.622	.961	.929	1.033	.578	.588	.793
May	151.4	154.5	162.8	.652	.987	1.007	1.061	.616	.618	.809
June	148.2	156.6	159.7	.645	.956	1.010	1.030	.614	.609	.839
July	147.2	161.8	157.6	.664	.977	1.074	1.046	.614	.643	.857
August	148.2	161.8	156.6	.692	1.026	1.120	1.084	.570	.622	.876
September	147.2	159.7	160.8	.678	.998	1.083	1.090	.539	.635	.884
October	148.2	160.8	159.7	.634	.940	1.019	1.012	.470	.691	1.01
November	147.2	162.8	.....	.625	.920	1.018	.....	.482	.722	.....
December	146.1	162.8	.....	.600	.877	.977	.....	.482	.734	.....
Year	153.4	155.5	.....	.629	.965	.978	.....	.580	.624	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales.

TABLE 86.—*Estimated prices of hogs, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per hundredweight.[2]	1909–1913 prices per hundredweight raised with index wholesale prices.[3]			Prices received per hundredweight.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	7.26	12.89	10.46	11.82	9.41	8.02	8.29
February	167.0	147.2	163.9	7.43	12.41	10.94	12.18	9.42	9.90	8.02
March	161.8	148.2	166.0	8.02	12.98	11.89	13.31	10.00	10.43	8.18
April	154.5	149.3	166.0	8.04	12.42	12.00	13.35	8.50	10.31	8.08
May	151.4	154.5	162.8	7.81	11.82	12.07	12.71	8.35	10.48	7.53
June	148.2	156.6	159.7	7.90	11.71	12.37	12.62	8.19	10.33	6.92
July	147.2	161.8	157.6	8.00	11.78	12.94	12.61	9.69	9.70	7.04
August	148.2	161.8	156.6	8.00	11.86	12.94	12.53	9.26	8.01	8.48
September	147.2	159.7	160.8	8.15	12.00	13.02	13.11	7.61	8.75	8.35
October	148.2	160.8	159.7	7.93	11.75	12.75	12.66	7.72	8.80	7.42
November	147.2	162.8	.....	7.48	11.01	12.18	.....	7.01	8.07	.....
December	146.1	162.8	.....	7.50	10.96	12.21	.....	6.92	8.18	.....
Year	153.4	155.5	.....	7.77	11.92	12.08	.....	8.51	9.22	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for corresponding month.
[4] Average of reported sales.

TABLE 87.—*Estimated prices of lard, if pre-war price ratios were established at price levels of 1921, 1922, 1923.*

Month.	Index wholesale prices, all commodities, Bureau of Labor Statistics, 1909–1913=100.[1]			Chicago prices per hundredweight.[2]	1909–1913 prices per hundredweight raised with index wholesale prices.[3]			Prices received per hundredweight.[4]		
	1921	1922	1923	1909–1913	1921	1922	1923	1921	1922	1923
	Per ct.	*Per ct.*	*Per ct.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
January	177.5	144.1	162.8	10.29	18.26	14.83	16.75	16.03	11.19	13.20
February	167.0	147.2	163.9	10.18	17.00	14.98	16.69	14.91	12.59	13.25
March	161.8	148.2	166.0	10.60	17.15	15.71	17.60	14.48	13.50	13.87
April	154.5	149.3	166.0	10.33	15.96	15.42	17.15	13.07	12.62	13.42
May	151.4	154.5	162.8	10.68	16.17	16.50	17.39	11.88	13.15	13.12
June	148.2	156.6	159.7	10.77	15.96	16.87	17.20	12.03	13.22	13.18
July	147.2	161.8	157.6	10.75	15.82	17.39	16.94	13.94	13.06	12.84
August	148.2	161.8	156.6	10.89	16.14	17.62	17.05	13.65	13.30	12.83
September	147.2	159.7	160.8	11.24	16.55	17.95	18.07	13.51	13.00	15.06
October	148.2	160.8	159.7	11.20	16.60	18.01	17.83	12.16	14.12	15.22
November	147.2	162.8	.....	10.92	16.07	17.78	.....	11.62	12.28	.....
December	146.1	162.8	.....	10.71	15.65	17.44	.....	11.25	13.31	.....
Year	153.4	155.5	.....	10.72	16.44	16.67	.....	13.21	12.94	.....

[1] Bureau of Labor Statistics index converted to 1909–1913 base.
[2] Average cash price.
[3] The average price for the month in 1909–1913 multiplied by the index number of wholesale prices for the corresponding month.
[4] Average of reported sales.

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